

# LilyPond

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El tipografiador de música

## Fragments

### El equipo de desarrolladores de LilyPond

Aquest document mostra un conjunt seleccionat de fragments del Lilypond del LilyPond Snippet Repository (<https://lsr.di.unimi.it>) (LSR). Està en el domini públic.

Voldríem donar moltes gràcies a Sebastiano Vigna per mantenir la pàgina web i la base de dades LSR, i a la Universitat de Milà per allotjar LSR.

Si us plau noteu que aquest document no és un subconjunt exacte del LSR: alguns fragments provenen del directory de codi Lilypond input/new, i els fragments del LSR es converteixen mitjançant `convert-ly`, atès que el LSR es basa en una versió estable del LilyPond, i aquest document és per a la versió 2.25.33.

Els fragments estan agrupats per etiquetes; les etiquetes llistades a la taula de continguts concorden amb una secció del manual de notació del LilyPond. Els fragments poden tenir moltes etiquetes, i no totes les etiquetes del LSR poden aparèixer en aquest document.

A la versió HTML d'aquest document podeu clicar sobre el nom del fitxer o figura per a cada exemple per veure el fitxer d'entrada corresponent.

Para mayor información sobre la forma en que este manual se relaciona con el resto de la documentación, o para leer este manual en otros formatos, consulte Sección “Manuales” in *Información general*.

Si le falta algún manual, encontrará toda la documentación en <https://lilypond.org/>.

Este documento se ha puesto en el dominio público.

Para la versión de LilyPond 2.25.33

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# 1 Pitches

See also Secció “Pitches” in *Referencia de la Notación*.

## Afegir un àmbit per veu

Es pot afegir un àmbit per cada veu. En aquest cas, l'àmbit s'ha de desplaçar manualment per evitar col·lisions.

```
\new Staff <<
  \new Voice \with {
    \consists "Ambitus_engraver"
  } \relative c'' {
    \override Ambitus.X-offset = 2.0
    \voiceOne
    c4 a d e
    f1
  }
  \new Voice \with {
    \consists "Ambitus_engraver"
  } \relative c' {
    \voiceTwo
    es4 f g as
    b1
  }
}>>
```



## Afegir una indicació d'octava alta a una sola veu

Si teniu més d'una veu al mateix pentagrama, el canvi d'octavació d'una veu transportarà la posició de les notes en totes les veus mentre duri la clau de l'octava. Si l'octavació es vol aplicar sols a una veu, s'han d'ajustar explícitament la middleCPosition i la clau d'octava. En aquest fragment de codi el valor de middleCPosition per a la clau de Fa és normalment 6, sis posicions per sobre de la línia del Do central, de manera que en la porció de 8va el valor de middleCPosition és encara 7 posicions (una octava) més alta.

```
\layout {
  \context {
    \Staff
    \remove Ottava_spanner_engraver
  }
  \context {
    \Voice
    \consists Ottava_spanner_engraver
  }
}

{
  \clef bass
  << { <g d'>1~ q2 <c' e'> }
```

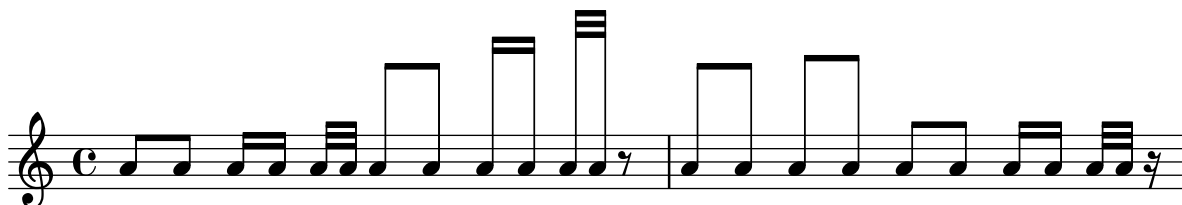




```

a8[ a]
\override Stem.details.beamed-lengths = #'(8.5)
a8[ a]
\revert Stem.details.beamed-lengths
a8[ a] a16[ a] a32[ a] r16 |
}

```



## Indicacions de tessitura

Les indicacions d'àmbit o tessitura indiquen rangs d'altures per a les veus.

Les alteracions accidentals sols es mostren si no formen part de l'armadura de tonalitat. Els objectes gràfics `AmbitusNoteHead` també tenen línies addicionals.

```

\layout {
  \context {
    \Voice
    \consists "Ambitus_engraver"
  }
}

```

```

<<
\new Staff {
  \relative c' {
    \time 2/4
    c4 f'
  }
}
\new Staff {
  \relative c' {
    \time 2/4
    \key d \major
    cis4 as'
  }
}
>>

```



## Ambitus after key signature

By default, ambitus are positioned at the left of the clef. The `\ambitusAfter` function allows for changing this placement. Syntax is `\ambitusAfter grob-interface`; see Graphical

Object Interfaces (<https://lilypond.org/doc/v2.24/Documentation/internals/graphical-object-interfaces>) for a list of possible values for *grob-interface*.

A common use case is printing the ambitus between key signature and time signature.

```
\new Staff \with {
  \consists Ambitus_engraver
} \relative {
  \ambitusAfter key-signature
  \key d \major
  es'8 g bes cis d2
}
```



## Àmbits amb diverses veus

L'addició del gravador *Ambitus\_engraver* al context de *Staff* crea un sol àmbit per pentagrama, fins i tot en el cas de pentagrames amb diverses veus.

```
\new Staff \with {
  \consists "Ambitus_engraver"
}
<<
  \new Voice \relative c'' {
    \voiceOne
    c4 a d e
    f1
  }
  \new Voice \relative c' {
    \voiceTwo
    es4 f g as
    b1
  }
}>>
```



## Aplicar estils de cap segons la nota de l'escala

La propietat *shapeNoteStyles* es pot usar per definir diversos estils de caps de nota per a cada grau de l'escala (segons estigui establert per l'armadura o per la propietat tonic). Aquesta propietat requereix un conjunt de símbols, que poden ser purament arbitraris (es permeten expressions geomètriques com *triangle*, *triangle*, *cross*, *aspes*, i *xcircle*, cercle amb aspes) o basats en una antiga tradició americana de gravat (també es permeten certs noms de nota llatins).

Dit això, per imitar antics cançoners americans, hi ha diversos estils predefinitos de caps de nota disponibles mitjançant ordres d'abreviatura com *\aikenHeads* o *\sacredHarpHeads*.

Aquest exemple mostra diferents formes d'obtenir caps de nota amb forma i mostra la capacitat de transportar una melodia sense perdre la correspondència entre les funcions harmòniques i els estils de caps de nota.

```

fragment = {
  \key c \major
  c2 d
  e2 f
  g2 a
  b2 c
}

\new Staff {
  \transpose c d
  \relative c' {
    \set shapeNoteStyles = ##(do re mi fa
                          #f la ti)

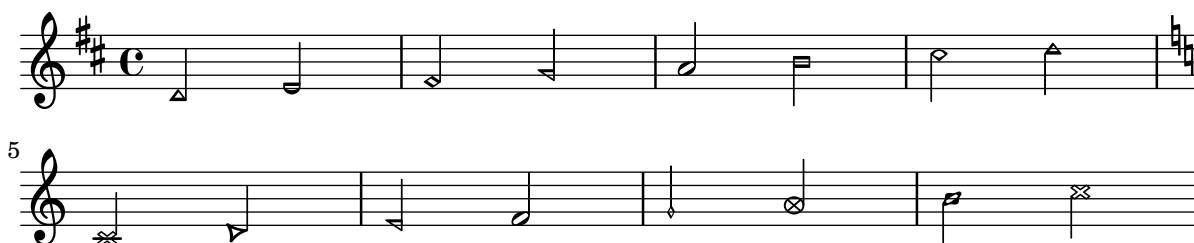
    \fragment
  }
}

\break

\relative c' {
  \set shapeNoteStyles = ##(cross triangle fa #f
                          mensural xcircle diamond)

  \fragment
}

```



## Canviar la direcció de la plica de les notes de tercera línia automàticament, basat en la melodia

El LilyPond pot alterar la direcció de la plica de les notes que van en la tercera línia d'un pentagrama de forma que segueixi la melodia, mitjançant l'addició del gravador `Melody_engraver` al context `Voice` i sobreescrivint el valor de `neutral-direction` per a l'objecte `Stem` (plica).

```

\relative c'' {
  \time 3/4
  a8 b g f b g |
  \set suspendMelodyDecisions = ##t
  a b g f b g |
  \unset suspendMelodyDecisions
  c b d c b c |
}

\layout {
  \context {
    \Voice
    \consists "Melody_engraver"
  }
}

```

```

\autoBeamOff
}
}

```



## Changing ottava text

Internally, `\ottava` sets the properties `ottavation` (for example, to 8va or 8vb) and `middleCPosition`. To override the text of the bracket, set `ottavation` after invoking `\ottava`.

Short text is especially useful when a brief ottava is used.

```

{
  c'2
  \ottava 1
  \set Staff.ottavation = "8"
  c''2
  \ottava 0
  c'1
  \ottava 1
  \set Staff.ottavation = "Text"
  c''1
}

```



## Modificació de la separació en les indicacions de tessitura

És possible ajustar la separació predeterminada entre les notes de la indicació de tessitura i la línia que les uneix.

```

\layout {
  \context {
    \Voice
    \consists "Ambitus_engraver"
  }
}

```

```

\new Staff {
  \time 2/4
  % Default setting
  c'4 g''
}

```

```

\new Staff {
  \time 2/4
  \override AmbitusLine.gap = 0
  c'4 g''
}

```

```

\new Staff {
  \time 2/4
  \override AmbitusLine.gap = 1
  c'4 g'
}

\new Staff {
  \time 2/4
  \override AmbitusLine.gap = 1.5
  c'4 g'
}

```



## Canviar l'interval de les línies de la pauta

S'usa `staffLineLayoutFunction` per canviar la posició de les notes. Aquest fragment de codi mostra com ajustar el seu valor al de `ly:pitch-semitones` per produir una escala cromàtica amb la distància entre cada espai i línia del pentagrama igual a un semitò.

```

scale = \relative c' {
  a4 ais b c
  cis4 d dis e
  f4 fis g gis
  a1
}

\new Staff \with {
  \remove "Accidental_engraver"
  staffLineLayoutFunction = #ly:pitch-semitones
}
{
  <<
    \scale
    \context NoteNames {
      \set printOctaveNames = ##f
      \scale
    }
  >>
}

```



## Les claus es poden transposar en intervals arbitraris

Es poden transposar les claus en intervals arbitraris, no sols octaves.

```
\relative c' {
  \clef treble
  c4 c c c
  \clef "treble_8"
  c4 c c c
  \clef "treble_5"
  c4 c c c
  \clef "treble^3"
  c4 c c c
}
```



## Acolorir les notes segons la seva alçada

És possible acolorir el cap de les notes depenent de la seva alçada i/o del seu nom: la funció que s'usa en aquest exemple fa possible fins i tot distingir els harmònics.

*% Association list of pitches to colors.*

```
#(define color-mapping
  (list
    (cons (ly:make-pitch 0 0 NATURAL) (x11-color 'red))
    (cons (ly:make-pitch 0 0 SHARP) (x11-color 'green))
    (cons (ly:make-pitch 0 1 FLAT) (x11-color 'green))
    (cons (ly:make-pitch 0 2 NATURAL) (x11-color 'red))
    (cons (ly:make-pitch 0 2 SHARP) (x11-color 'green))
    (cons (ly:make-pitch 0 3 FLAT) (x11-color 'red))
    (cons (ly:make-pitch 0 3 NATURAL) (x11-color 'green))
    (cons (ly:make-pitch 0 4 SHARP) (x11-color 'red))
    (cons (ly:make-pitch 0 5 NATURAL) (x11-color 'green))
    (cons (ly:make-pitch 0 5 FLAT) (x11-color 'red))
    (cons (ly:make-pitch 0 6 SHARP) (x11-color 'red))
    (cons (ly:make-pitch 0 1 NATURAL) (x11-color 'blue))
    (cons (ly:make-pitch 0 3 SHARP) (x11-color 'blue))
    (cons (ly:make-pitch 0 4 FLAT) (x11-color 'blue))
    (cons (ly:make-pitch 0 5 SHARP) (x11-color 'blue))
    (cons (ly:make-pitch 0 6 FLAT) (x11-color 'blue))))
```

*% Compare pitch and alteration (not octave).*

```
#(define (pitch-equals? p1 p2)
  (and
    (= (ly:pitch-alteration p1) (ly:pitch-alteration p2))
    (= (ly:pitch-notename p1) (ly:pitch-notename p2))))
```

```

#(define (pitch-to-color pitch)
  (let ((color (assoc pitch color-mapping pitch-equals?)))
    (if color
        (cdr color))))

#(define (color-notehead grob)
  (pitch-to-color
   (ly:event-property (event-cause grob) 'pitch)))

\score {
  \new Staff \relative c' {
    \override NoteHead.color = #color-notehead
    c8 b d dis ees f g aes
  }
}

```



## Crear una seqüència de notes a diferents alçades

En una música que tingui moltes aparicions de la mateixa seqüència de notes a diferents altures, podria ser d'utilitat la següent funció musical. Admet una nota, de la qual sols s'utilitza la seva alçada. Les funcions de suport a l'Scheme s'han agafat prestades del document de "Consells i ajustament" de la versió 2.10 del manual. Aquest exemple crea les duracions rítmiques que s'usen a tot el llarg de «Mart», de «Els Planetes» de Gustav Holst.

```
rhythm =
#(define-music-function (p) (ly:pitch?)
  "Make the rhythm in Mars (the Planets) at the given pitch"
  #{ \tuplet 3/2 { $p 8 8 8 } 4 4 8 8 4 #})
```

```
\new Staff {
  \time 5/4
  \rhythm c'
  \rhythm c' '
  \rhythm g
}
```



## Creació d'armadures personalitzades

El LilyPond accepta armadures personalitzades. En aquest exemple, es mostra l'armadura de re menor amb una rang estès de bemolls.

```
\new Staff \with {
  \override StaffSymbol.line-count = #8
  \override KeySignature.flat-positions = #'((-7 . 6))
  \override KeyCancellation.flat-positions = #'((-7 . 6))
```



```

\override KeySignature.sharp-positions = #'((-6 . 7))
\override KeyCancellation.sharp-positions = #'((-6 . 7))

\override Clef.stencil =
  #(\lambda (grob)
    (grob-interpret-markup grob
      #{ \markup\combine
        \musicglyph "clefs.C"
        \translate #'(-3 . -2)
        \musicglyph "clefs.F"
      })
    )
  clefPosition = #3
  middleCPosition = #3
  middleCClefPosition = #3
}

{
  \key d\minor f bes, f bes, |
  \key d\major fis b, fis b, |
}

```



## Direction of merged ‘fa’ shape note heads

Using property `NoteCollision.fa-merge-direction`, the direction of “fa” shape note heads (“fa”, “faThin”, etc.) can be controlled independently of the stem direction if two voices with the same pitch and different stem directions are merged. If this property is not set, the “down” glyph variant is used.

```

{
  \clef bass

  << { \aikenHeads
    f2
    \override Staff.NoteCollision.fa-merge-direction = #UP
    f2 }
  \\ { \aikenHeads
    f2
    f2 }
  >>
}

```



## Force a cancellation natural before accidentals

The following example shows how to force a natural sign before an accidental.

```

\relative c' {
  \key es \major

```

```

bes c des
\tweak Accidental.restore-first ##t
eis
}

```



## Forçar la impressió de la clau

Quan ja s'ha imprimit la clau i encara no s'ha canviat a una diferent, el LilyPond ignorarà la repetició de l'ordre `\clef`, ja que no constitueix un canvi de clau. És possible forçar la reimpressió de la clau usant l'ordre `\set Staff.forceClef = ##t`.

```

\relative c' {
  \clef treble
  c1
  \clef treble
  c1
  \set Staff.forceClef = ##t
  c1
  \clef treble
  c1
}

```



## Generació de notes aleatòries

Aquest fragment de codi basat en l'Scheme genera 24 notes aleatòries (o tantes com calguin), basant-se en l'hora actual (o en qualsevol nombre pseudo-aleatori que s'especifiqui en el seu lloc, per obtenir les mateixes notes aleatòries cada cop): és a dir, per obtenir diferents patrons de notes, sols ha de modificar aquest número.

```

randomNotes =
#(define-music-function (n from to dur)
  (integer? ly:pitch? ly:pitch? ly:duration?)
  (let ((from-step (ly:pitch-steps from))
        (to-step (ly:pitch-steps to)))
    (make-sequential-music
     (map (lambda (_)
            (let* ((step (+ from-step
                              (random (- to-step from-step))))
                  (pitch (ly:make-pitch 0 step 0)))
              #{ $pitch $dur #}))
          (iota n))))))

\randomNotes 24 c' g'' 8

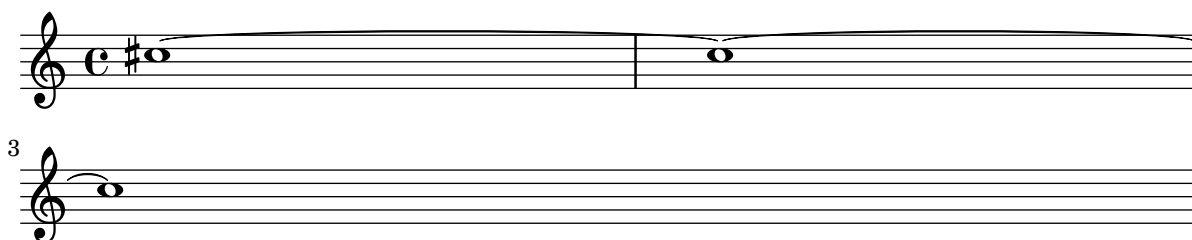
```



## Ocultar les alteracions sobre notes lligades al principi d'un sistema nou

Aquí es mostra la manera d'ocultar les alteracions de les notes lligades al començament d'uns sistema nou.

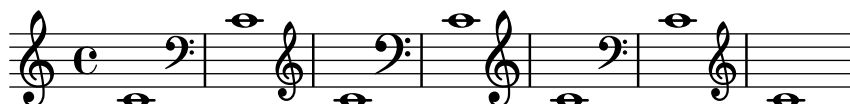
```
\relative c' {
  \override Accidental.hide-tied-accidental-after-break = ##t
  cis1~ cis~
  \break
  cis
}
```



## Mantenir la mida del símbol en els canvis de clau

Quan es produeix un canvi de clau, el símbol de clau s'imprimeix a una mida més petita que la clau inicial. Això es pot ajustar amb `full-size-change`.

```
\relative c' {
  \clef "treble"
  c1
  \clef "bass"
  c1
  \clef "treble"
  c1
  \override Staff.Clef.full-size-change = ##t
  \clef "bass"
  c1
  \clef "treble"
  c1
  \revert Staff.Clef.full-size-change
  \clef "bass"
  c1
  \clef "treble"
  c1
}
```



## Exemple de «Makam»

El «Makam» és un tipus de melodia de Turquia que utilitza alteracions microtonals de 1/9 de to. Consulteu el fitxer d'inici `makam.ly` (vegeu el «Manual d'aprenentatge 2.25.33, 4.6.3 Altres forms d'informació» per esbrinar la situació d'aquest fitxer) per veure detalls dels noms de les notes i les alteracions.

```
\include "makam.ly"
```

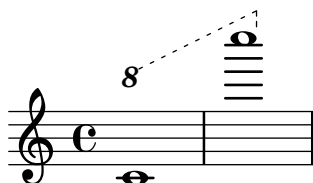
```
\relative c' {
  \set Staff.keyAlterations = #`((6 . ,(- KOMA)) (3 . ,BAKIYE))
  c4 cc db fk
  gbm4 gfc gfb efk
  fk4 db cc c
}
```



## Modifying the ottava spanner slope

It is possible to change the slope of the ottava spanner.

```
\relative c' {
  \override Staff.OttavaBracket.stencil = #ly:line-spanner::print
  \override Staff.OttavaBracket.bound-details =
    #`((left . ((Y . 0)
      (attach-dir . ,LEFT)
      (padding . 0)
      (stencil-align-dir-y . ,CENTER)))
      (right . ((Y . 5.0) ; Change the number here
      (padding . 0)
      (attach-dir . ,RIGHT)
      (text . ,(make-draw-dashed-line-markup
        (cons 0 -1.2))))))
  \override Staff.OttavaBracket.left-bound-info =
    #ly:horizontal-line-spanner::calc-left-bound-info-and-text
  \override Staff.OttavaBracket.right-bound-info =
    #ly:horizontal-line-spanner::calc-right-bound-info
  \ottava 1
  c1
  c'''1
}
```



## Armadures de tonalitat no tradicional

La molt utilitzada ordre `\key` estableix la propietat `keyAlterations`, dins del context `Staff`.

Per crear armadures de tonalitat no estàndard, ajusteu aquesta propietat directament. El format d'aquesta ordre és una llista:

`\set Staff.keyAlterations = #`(((octava . pas) . alteració)` on, per cada element dins de la llista `octava` especifica l'octava (sent zero l'octava des del Do central fins al Si per sobre), `pas` especifica la nota dins de l'octava (zero significa Do i 6 significa Si), i `alteració` és `,SHARP` ,`FLAT` ,`DOUBLE-SHARP` etc. (observeu la coma precedent).

De forma alternativa, per a cada element de la llista l'ús del format més concís (pas. alteració) especifica que la mateixa alteració ha d'estar en totes les octaves.

Vet aquí un exemple d'una possible armadura per generar una escala exàtona:

```
\include "arabic.ly"

\relative do' {
  \set Staff.keyAlterations = #`((0 . ,SEMI-FLAT)
                                (1 . ,SEMI-FLAT)
                                (2 . ,FLAT)
                                (5 . ,FLAT)
                                (6 . ,SEMI-FLAT))

  % \set Staff.extraNatural = ##f
  re reb \down reb resd
  dod dob dosd \down dob |
  dobsb dodsdo do do |
}
```



## Nombres com notes de notació fàcil

Els caps de nota de notació fàcil utilitzen la propietat `note-names` de l'objecte `NoteHead` per determinar el que apareix dins del cap. Mitjançant la sobreescritura d'aquesta propietat, és possible imprimir nombres que representen el grau de l'escala.

Es pot crear un gravador simple que faci això per al cap de cada nota que ve.

```
#(define Ez_numbers_engraver
  (make-engraver
    (acknowledgers
      ((note-head-interface engraver grob source-engraver)
        (let* ((context (ly:translator-context engraver))
              (tonic-pitch (ly:context-property context 'tonic))
              (tonic-name (ly:pitch-notename tonic-pitch))
              (grob-pitch
                (ly:event-property (event-cause grob) 'pitch))
              (grob-name (ly:pitch-notename grob-pitch))
              (delta (modulo (- grob-name tonic-name) 7))
              (note-names
                (make-vector 7 (number->string (1+ delta))))))
          (ly:grob-set-property! grob 'note-names note-names))))))

#(set-global-staff-size 30)

\layout {
  ragged-right = ##t
  \context {
    \Voice
    \consists \Ez_numbers_engraver
  }
}
```

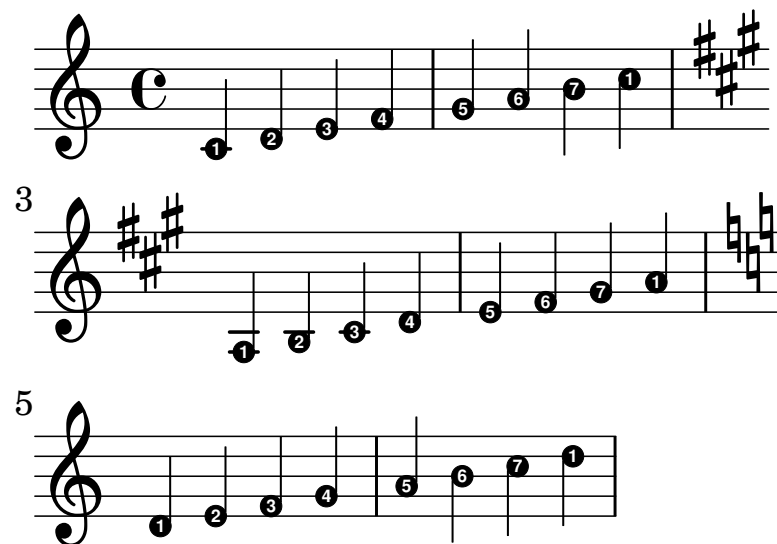
```

\relative c' {
  \easyHeadsOn
  c4 d e f
  g4 a b c \break

  \key a \major
  a,4 b cis d
  e4 fis gis a \break

  \key d \dorian
  d,4 e f g
  a4 b c d
}

```



## Plantilla d'orquestra amb cor i piano

Aquesta plantilla mostra l'ús de contextos `StaffGroup` i `GrandStaff` niuats per sub-agrupar instruments del mateix tipus, i una forma d'usar `\transpose` de manera que unes variables continguin la música per a instruments transpositors en afinació de concert.

```
#(set-global-staff-size 17)
```

```

\paper {
  indent = 3.0\cm % add space for instrumentName
  short-indent = 1.5\cm % add less space for shortInstrumentName
}

```

```
fluteMusic = \relative c' { \key g \major g'1 b }
```

```
% Pitches as written on a manuscript for Clarinet in A
% are transposed to concert pitch.
```

```
clarinetMusic = \transpose c' a
  \relative c'' { \key bes \major bes1 d }
```

```
trumpetMusic = \relative c { \key g \major g''1 b }
```

```

% Key signature is often omitted for horns
hornMusic = \transpose c' f
  \relative c { d'1 fis }

percussionMusic = \relative c { \key g \major g1 b }

sopranoMusic = \relative c' { \key g \major g'1 b }
sopranoLyrics = \lyricmode { Lyr -- ics }

altoIMusic = \relative c' { \key g \major g'1 b }
altoILyrics = \sopranoLyrics
altoIIMusic = \relative c' { \key g \major g'1 b }
altoIILyrics = \lyricmode { Ah -- ah }

tenorMusic = \relative c' { \clef "treble_8" \key g \major g1 b }
tenorLyrics = \sopranoLyrics

pianoRHMus = \relative c { \key g \major g''1 b }
pianoLHMus = \relative c { \clef bass \key g \major g1 b }

violinIMusic = \relative c' { \key g \major g'1 b }
violinIIMusic = \relative c' { \key g \major g'1 b }

violaMusic = \relative c { \clef alto \key g \major g'1 b }

celloMusic = \relative c { \clef bass \key g \major g1 b }

bassMusic = \relative c { \clef "bass_8" \key g \major g,1 b }

\book {
  \score {
    <<
    \new StaffGroup = "StaffGroup_woodwinds" <<
    \new Staff = "Staff_flute" \with { instrumentName = "Flute" }
    \fluteMusic

    \new Staff = "Staff_clarinet" \with {
      instrumentName = \markup { \concat { "Clarinet in B" \flat } }
    }
    % Declare that written Middle C in the music
    % to follow sounds a concert B flat, for
    % output using sounded pitches such as MIDI.
    %\transposition bes

    % Print music for a B-flat clarinet
    \transpose bes c' \clarinetMusic
    >>

    \new StaffGroup = "StaffGroup_brass" <<
    \new Staff = "Staff_hornI" \with {
      instrumentName = "Horn in F"
    }
  }
}

```

```

% \transposition f
\transpose f c' \hornMusic

\new Staff = "Staff_trumpet" \with {
  instrumentName = "Trumpet in C"
}
\trumpetMusic
>>

\new RhythmicStaff = "RhythmicStaff_percussion" \with {
  instrumentName = "Percussion"
}
\percussionMusic

\new PianoStaff \with {
  instrumentName = "Piano"
} <<
\new Staff { \pianoRHMusical }
\new Staff { \pianoLHMusical }
>>

\new ChoirStaff = "ChoirStaff_choir" <<
\new Staff = "Staff_soprano" \with {
  instrumentName = "Soprano"
}
\new Voice = "soprano" \sopranoMusical
\new Lyrics \lyricsto "soprano" { \sopranoLyrics }

\new GrandStaff = "GrandStaff_altos" \with {
  \accepts Lyrics
} <<
\new Staff = "Staff_altoI" \with {
  instrumentName = "Alto I"
}
\new Voice = "altoI"
\altoIMusical
\new Lyrics \lyricsto "altoI" { \altoILyrics }
\new Staff = "Staff_altoII" \with {
  instrumentName = "Alto II"
}
\new Voice = "altoII"
\altoIIMusical
\new Lyrics \lyricsto "altoII" { \altoIILyrics }
>>

\new Staff = "Staff_tenor" \with {
  instrumentName = "Tenor"
}
\new Voice = "tenor" \tenorMusical
\new Lyrics \lyricsto "tenor" { \tenorLyrics }
>>

```



```

\new StaffGroup = "StaffGroup_strings" <<
  \new GrandStaff = "GrandStaff_violins" <<
    \new Staff = "Staff_violinI" \with {
      instrumentName = "Violin I"
    }
    \violinIMusic
    \new Staff = "Staff_violinII" \with {
      instrumentName = "Violin II"
    }
    \violinIIMusic
  >>

  \new Staff = "Staff_viola" \with {
    instrumentName = "Viola"
  }
  \violaMusic

  \new Staff = "Staff_cello" \with {
    instrumentName = "Cello"
  }
  \celloMusic

  \new Staff = "Staff_bass" \with {
    instrumentName = "Double Bass"
  }
  \bassMusic
>>
}
}

```

Flute

Clarinet in B $\flat$

Horn in F

Trumpet in C

Percussion

Piano

Soprano

Alto I

Alto II

Tenor

Violin I

Violin II

Viola

Cello

Double Bass

Lyr - ics

Lyr - ics

Ah - ah

Lyr - ics

## Evitar que s'afegeixen becaires addicionals automàticament

Segons les regles tradicionals de composició tipogràfica, s'imprimeix un becaire abans d'un sostingut o un bemoll quan s'ha de cancel·lar un doble sostingut o un doble bemoll anterior en la mateixa nota. Per modificar aquest comportament a la pràctica actual establiu el valor de la propietat `extraNatural` a `##f` (fals) dins del context de `Staff`.

```
\relative c' ' {
  aeses4 aes ais a
  \set Staff.extraNatural = ##f
  aeses4 aes ais a
}
```



## Evitar que se impriman becuadros cuando cambia la armadura

Quan es canvia l'armadura de la tonalitat, s'imprimeixen becaires automàticament per cancel·lar les alteracions de les armadures anteriors. Això es pot evitar establint al valor “falso” la propietat `printKeyCancellation` del context `Staff`.

```
\relative c' {
  \key d \major
  a4 b cis d
  \key g \minor
  a4 bes c d
  \set Staff.printKeyCancellation = ##f
  \key d \major
  a4 b cis d
  \key g \minor
  a4 bes c d
}
```



## Citació d'una altra veu amb transposició

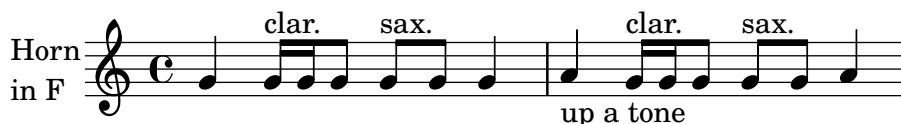
Els passatges citats tenen en compte la transposició de la font tant com la del destí. En aquest exemple, tots els instruments interpreten una nota amb el so de Do central; el destí d'un instrument transpositor en Fa. La part de destí es pot transportar utilitzant `\transpose`. En aquest cas les notes citades romanen sense canvis.

```
\addQuote clarinet {
  \transposition bes
  \repeat unfold 8 { d'16 d' d'8 }
}

\addQuote sax {
  \transposition es'
  \repeat unfold 16 { a8 }
}
```

```
quoteTest = {
  % french horn
  \transposition f
  g'4
  << \quoteDuring "clarinet" { \skip 4 } s4^"clar." >>
  << \quoteDuring "sax" { \skip 4 } s4^"sax." >>
  g'4
}

{
  \new Staff \with {
    instrumentName = \markup { \column { Horn "in F" } }
  }
  \quoteTest
  \transpose c' d' << \quoteTest s4_"up a tone" >>
}
```



## Separar les cancel·lacions de tonalitat dels canvis d'armadura

De forma predeterminada, les alteracions accidentals que s'usen per a les cancel·lacions a les armadures es col·loquen adjacents a les que s'usen per als canvis de tonalitat. Aquest comportament es pot canviar sobreescrivint la propietat 'break-align-orders de l'objecte gràfic BreakAlignment.

El valor de 'break-align-orders és un vector de longitud 3, amb llistes entre cometes els elements de les quals són objectes que es poden dividir en un salt. Aquest exemple sols modifica la segona llista, movent key-cancellation abans de staff-bar; modificant la segona llista, el comportament d'alineació dels salts canvia en la meitat d'un sistema, no al principi ni al final.

```
#(define (insert-before where what lst)
  (cond
    ((null? lst) ; If the list is empty,
     (list what)) ; return a single-element list.
    ((eq? where (car lst)) ; If we find symbol `where`,
     (cons what lst)) ; insert `what` before curr. position.
    (else ; Otherwise keep building the list by
     (cons (car lst) ; adding the current element and
           ; recursing with the next element.
           (insert-before where what (cdr lst))))))

cancellationFirst =
\override Score.BreakAlignment.break-align-orders =
#(grob-transformer
  'break-align-orders
  (lambda (grob orig)
    (let* ((middle (vector-ref orig 1))
           (middle (delq 'key-cancellation middle))
           (middle (insert-before
                         'staff-bar 'key-cancellation middle)))
      (vector
```

```

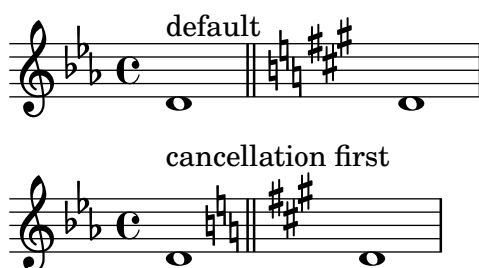
;; end of line
(vector-ref orig 0)
;; middle of line
middle
;; beginning of line
(vector-ref orig 2))))))

music = { \key es \major d'1 \bar "||"
          \key a \major d'1 }

{ <>^\markup "default"
  \music }

{ <>^\markup "cancellation first"
  \cancellationFirst
  \music }

```



## Transposing pitches with minimum accidentals (“smart” transpose)

This example uses some Scheme code to enforce enharmonic modifications for notes in order to have the minimum number of accidentals. In this case, the following rules apply:

- double accidentals should be removed
- b sharp  $\rightarrow$  c
- e sharp  $\rightarrow$  f
- c flat  $\rightarrow$  b
- f flat  $\rightarrow$  e

In this manner, the most natural enharmonic notes are chosen.

```

#(define (naturalize-pitch p)
  (let ((o (ly:pitch-octave p))
        ;; `ly:pitch-alteration` returns quarter tone steps.
        (a (* 4 (ly:pitch-alteration p)))
        (n (ly:pitch-notename p)))
    (cond
      ((and (> a 1)
            (or (eqv? n 6) (eqv? n 2))))
      (set! a (- a 2))
      (set! n (+ n 1)))
    ((and (< a -1)
            (or (eqv? n 0) (eqv? n 3))))
      (set! a (+ a 2))
      (set! n (- n 1))))

```

```
(cond
  ((> a 2)
    (set! a (- a 4))
    (set! n (+ n 1)))
  ((< a -2)
    (set! a (+ a 4))
    (set! n (- n 1))))
(when (< n 0)
  (set! o (- o 1))
  (set! n (+ n 7)))
(when (> n 6)
  (set! o (+ o 1))
  (set! n (- n 7)))
(ly:make-pitch o n (/ a 4))))

#(define (naturalize music)
  (let ((es (ly:music-property music 'elements))
        (e (ly:music-property music 'element))
        (p (ly:music-property music 'pitch)))
    (when (pair? es)
      (ly:music-set-property! music 'elements
                               (map naturalize es)))
    (when (ly:music? e)
      (ly:music-set-property! music 'element
                               (naturalize e)))
    (when (ly:pitch? p)
      (set! p (naturalize-pitch p))
      (ly:music-set-property! music 'pitch p))
    music))

naturalizeMusic =
#(define-music-function (m) (ly:music?)
  (naturalize m))

music = \relative c' { c4 d e g }

\new Staff {
  \transpose c ais { \music }
  \naturalizeMusic \transpose c ais { \music }
  \transpose c deses { \music }
  \naturalizeMusic \transpose c deses { \music }
}
```



## Turkish Makam example

This template uses the start of a well-known Turkish *Saz Semai* that is familiar in the repertoire in order to illustrate some of the elements of Turkish music notation.

```
#(set-default-paper-size "a6" 'landscape)
```

```

\include "turkish-makam.ly"

\header {
  title = "Hüseyini Saz Semaisi"
  composer = "Lavtacı Andon"
  tagline = ##f
}

\relative {
  \set Staff.extraNatural = ##f
  \set Staff.autoBeaming = ##f

  \key a \huseyni
  \time 10/8

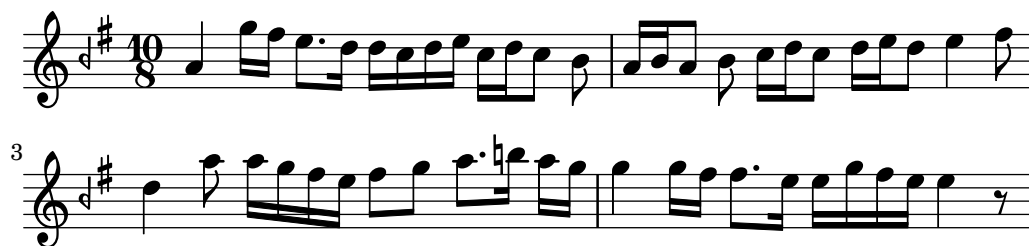
  a'4 g'16[ fb] e8.[ d16] d[ c d e] c[ d c8] bfc |
  a16[ bfc a8] bfc c16[ d c8] d16[ e d8] e4 fb8 |
  d4 a'8 a16[ g fb e] fb8[ g] a8.[ b16] a16[ g] |
  g4 g16[ fb] fb8.[ e16] e[ g fb e] e4 r8 |
}

\layout {
  indent = 0
}

```

## Hüseyini Saz Semaisi

Lavtacı Andon



### Ajustament de les propietats de clau

La modificació del glif de la clau, la seva posició o octava, no canvien 'per se' la posició de les notes següents del pentagrama. Per aconseguir armadures adequades de tonalitat sobre les línies del pentagrama, s'ha d'especificar també `middleCClefPosition`, amb valor positiu o negatiu que moguin Do central cap amunt o cap avall, respectivament, en relació amb la línia central del pentagrama (usualment la tercera).

Per exemple, l'ordre `\clef "treble_8"` equival a un ajustament de `clefGlyph`, `clefPosition` (que controla la posició vertical de la clau sobre el pentagrama), `middleCPosition` i `clefTransposition`. Se imprimeix la clau cada cop que es modifica qualsevol de les propietats excepte `middleCPosition`.

Els exemple següents mostren les possibilitats quan s'ajusten aquestes propietats manualment. En la primera línia, els canvis manuals preserven la posició relativa estàndard de les clau i les notes, però no ho fan a la segona línia.

```
{
```

```

% The default treble clef.
\key f \major
c'1
% The standard bass clef
\set Staff.clefGlyph = "clefs.F"
\set Staff.clefPosition = 2
\set Staff.middleCPosition = 6
\set Staff.middleCClefPosition = 6
\key g \major
c'1
% The baritone clef.
\set Staff.clefGlyph = "clefs.C"
\set Staff.clefPosition = 4
\set Staff.middleCPosition = 4
\set Staff.middleCClefPosition = 4
\key f \major
c'1
% The standard choral tenor clef.
\set Staff.clefGlyph = "clefs.G"
\set Staff.clefPosition = -2
\set Staff.clefTransposition = -7
\set Staff.middleCPosition = 1
\set Staff.middleCClefPosition = 1
\key f \major
c'1
% A non-standard clef.
\set Staff.clefPosition = 0
\set Staff.clefTransposition = 0
\set Staff.middleCPosition = -4
\set Staff.middleCClefPosition = -4
\key g \major
c'1 \break

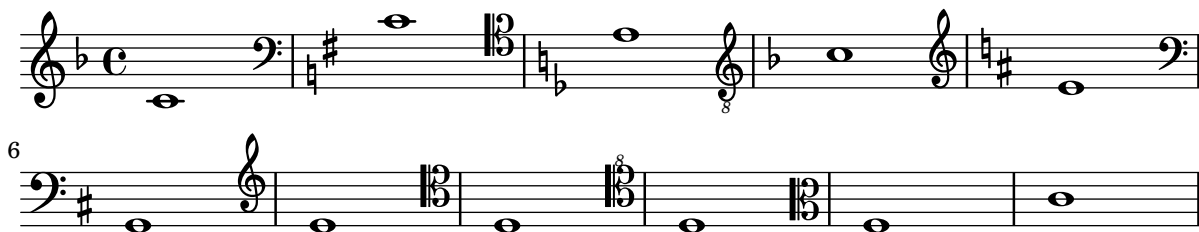
% The following clef changes do not preserve
% the normal relationship between notes, key signatures
% and clefs.
\set Staff.clefGlyph = "clefs.F"
\set Staff.clefPosition = 2
c'1
\set Staff.clefGlyph = "clefs.G"
c'1
\set Staff.clefGlyph = "clefs.C"
c'1
\set Staff.clefTransposition = 7
c'1
\set Staff.clefTransposition = 0
\set Staff.clefPosition = 0
c'1

% Return to the normal clef.
\set Staff.middleCPosition = 0
c'1

```



}

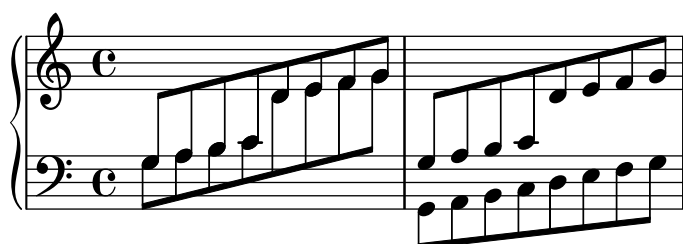


## Using \autoChange with more than one voice

Here is a demonstration of how to use \autoChange with more than one voice.

```
\score {
  \new PianoStaff
  <<
    \new Staff = "up" {
      <<
        \set Timing.beamExceptions = #'()
        \set Timing.beatStructure = #'(4)
        \new Voice {
          \voiceOne
          \autoChange
          \relative c' {
            g8 a b c d e f g
            g,8 a b c d e f g
          }
        }
      >>
    }
    \new Voice {
      \voiceTwo
      \autoChange
      \relative c' {
        g8 a b c d e f g
        g,,8 a b c d e f g
      }
    }
  >>
}

\new Staff = "down" {
  \clef bass
}
>>
}
```



## 2 Rhythms

See also Secció “Rhythms” in *Referencia de la Notación*.

### Adding beams, slurs, ties, etc., when using tuplet and non-tuplet rhythms

LilyPond primarily uses postfix syntax for inputting parentheses, brackets, etc., which might feel unintuitive for novices.

For example, when entering a manual beam, the left square bracket has to be placed *after* the starting note and its duration, not before. Similarly, the right square bracket should directly follow the note which is to be at the end of the requested beaming, even if this note happens to be inside a tuplet section.

This snippet demonstrates how to combine manual beaming, manual slurs, ties, and phrasing slurs with tuplet sections (enclosed within curly braces).

```
{
  r16[ g16 \tuplet 3/2 { r16 e'8] }
  g16( a \tuplet 3/2 { b d' e' } )
  g8[( a \tuplet 3/2 { b d' ) e']\ ( ~ }
  \time 2/4
  \tuplet 5/4 { e'32 a b d' e' } a'4.\)
}
```



### Espectura de parts de percussió

Mitjançant la utilització de les potents eines preconfigurades com la funció `\drummode` i el context `DrumStaff`, la introducció de parts per a percussió és molt fàcil: les percussions se situen en les seves pròpies posicions de pentagrama (amb una clau especial) i tenen els caps corresponents a l'instrument. És possible afegir un símbol addicional a la percussió o reduir el nombre de línies.

```
drh = \drummode {
  cymc4.^"crash" hhc16^"h.h." hh hhc8 hho hhc8 hh16 hh
  hhc4 r4 r2
}
drl = \drummode {
  bd4 sn8 bd bd4 << bd ss >>
  bd8 tommh tommh bd toml toml bd tomfh16 tomfh
}
timb = \drummode {
  timh4 ssh timl8 ssh r timh r4
  ssh8 timl r4 cb8 cb
}

\score {
  <<
  \new DrumStaff \with {
    instrumentName = "timbales"
    drumStyleTable = #timbales-style
```

```

\override StaffSymbol.line-count = #2
\override BarLine.bar-extent = #'(-1 . 1)
}
<<
\timb
>>
\new DrumStaff \with { instrumentName = "drums" }
<<
\new DrumVoice { \stemUp \drh }
\new DrumVoice { \stemDown \drl }
>>
>>
\layout { }
\midi { \tempo 4 = 120 }
}

```

## Ajustament d'espaiat de les notes d'adorn

Es poden ajustar la separació entre les notes d'adorn utilitzant la propietat `spacing-increment` de `Score.GraceSpacing`.

```

\graceNotes = {
  \grace { c4 c8 c16 c32 }
  c8
}

\relative c' {
  c8
  \graceNotes
  \override Score.GraceSpacing.spacing-increment = #2.0
  \graceNotes
  \revert Score.GraceSpacing.spacing-increment
  \graceNotes
}

```

## Alineació dels números de compàs

Els números de compàs s'alineen de forma predeterminada per la dreta amb el seu objecte pare. Aquest objecte és pel general la vora esquerra, d'una línia o, si els números s'imprimeixen dins de la línia, la vora esquerra d'una línia divisòria. Els números també es poden situar directament sobre la barra de compàs o alineats per l'esquerra amb ella.

```

\relative c' {

```

```

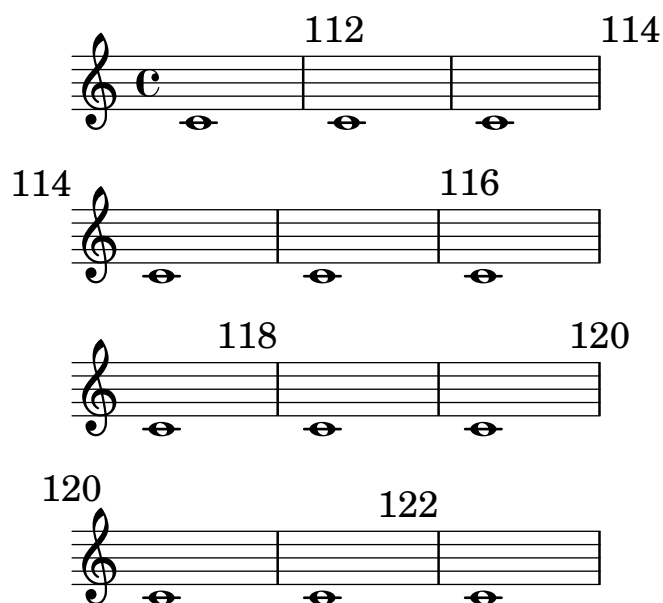
\set Score.currentBarNumber = 111
\override Score.BarNumber.break-visibility = #all-visible
% Increase the size of the bar number by 2
\override Score.BarNumber.font-size = 2
% Print a bar number every second measure
\set Score.barNumberVisibility = #(every-nth-bar-number-visible 2)

c1 | c1 | c1 | \break
c1 | c1 | c1 | \break

\override Score.BarNumber.self-alignment-X =
  #(break-alignment-list CENTER RIGHT CENTER)
c1 | c1 | c1 | \break
c1 | c1 | c1 |
}

\paper {
  line-width = 70\mm
}

```



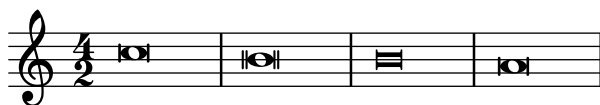
## Formes alternatives de la figura breu

Les figures de breu també estan disponibles amb dues línies verticals a les vores del cap en lloc d'una sola línia i la forma en estil barroc.

```

\relative c' ' {
  \time 4/2
  c\breve |
  \override Staff.NoteHead.style = #'altdefault
  b\breve
  \override Staff.NoteHead.style = #'baroque
  b\breve
  \revert Staff.NoteHead.style
  a\breve
}

```



## Appoggiatura or grace note before a bar line

By default, appoggiaturas and grace notes that occur on the first beat of a measure are printed after the bar line. A possible solution for single staves to print it before the bar line is to add an invisible bar line and then the visible one.

In multi-staff systems, however, adding an invisible bar line distorts the positioning of full-bar rests in other staves; they are no longer centered but slightly shifted to the left. A better solution for such situations is to use the `\afterGrace` command with setting `afterGraceFraction` appropriately.

```
<<
{
  \appoggiatura d''8 c''4 r2. |
  \appoggiatura { \bar "" d''8 \bar "|" } |
  c''4 r2.
}
{ R1 | R1 }
>>
```

`afterGraceFraction = 15/16`

```
<<
{
  \appoggiatura d''8 c''4 \afterGrace r2. d''8( |
  c''4) r2.
}
{ R1 | R1 }
>>
```



## Subdivisions de barra automàtiques

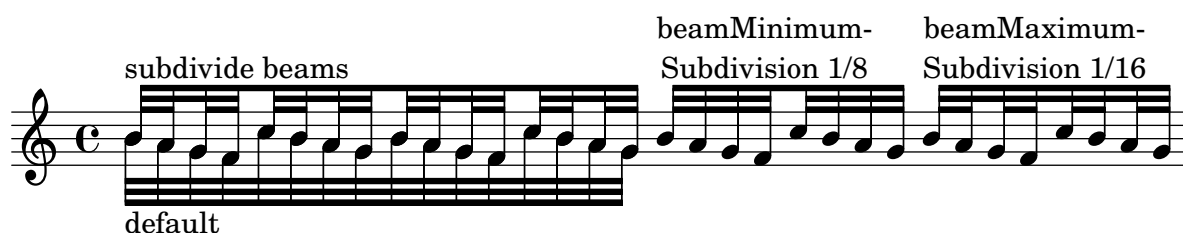
Es poden subdividir les barres automàticament. Establint la propietat `subdivideBeams`, les barres se subdivideixen en posicions de pols (tal i com s'especifica a `beatLength`).

```
\new Staff {
  \relative c'' {
```

```

<<
{
  \voiceOne
  \set subdivideBeams = ##t
  b32["subdivide beams" a g f c' b a g
  b32 a g f c' b a g]
}
\new Voice {
  \voiceTwo
  b32_"default"[ a g f c' b a g
  b32 a g f c' b a g]
}
>>
\oneVoice
\once \set beamMinimumSubdivision = #1/8
b32^\markup \center-column { "beamMinimum-"
                             "Subdivision 1/8" } [ a g f c' b a g]
\once \set beamMaximumSubdivision = #1/16
b32^\markup \center-column { "beamMaximum-"
                             "Subdivision 1/16" } [ a g f c' b a g]
}
}

```



## Modificar duracions automàticament

Es pot usar `shiftDurations` per canviar la longitud de les notes d'una peça musical. Agafa dos arguments: El factor d'escalat com una potència de dos, i el nombre de puntets a afegir com un enter positiu.

```
music = \relative c'' { a1 b2 c4 d8 r }
```

```

{
  \time 4/2
  \music
  \time 4/4
  \shiftDurations 1 0 \music
  \time 2/4
  \shiftDurations 2 0 \music
  \time 4/1
  \shiftDurations -1 0 \music
  \time 8/1
  \shiftDurations -2 0 \music
  \time 6/2
  \shiftDurations 0 1 \music
  \time 7/2
  \shiftDurations 0 2 \music
}

```

}



## Finals de barra en el context Score

Les regles de final de barra especificades en el context Score s'apliquen a tots els pentagrames, però es poden modificar tant en els nivells de Staff como de Voice:

```
\relative c'' {
  \time 5/4
  % Set default beaming for all staves
  \set Score.beatBase = #1/8
  \set Score.beatStructure = 3,4,3
  <<
    \new Staff {
      c8 c c c c c c c c c
    }
    \new Staff {
      % Modify beaming for just this staff
      \set Staff.beatStructure = 6,4
      c8 c c c c c c c c c c
    }
    \new Staff {
      % Inherit beaming from Score context
      <<
        {
          \voiceOne
          c8 c c c c c c c c c c
        }
        % Modify beaming for this voice only
        \new Voice {
          \voiceTwo
          \set Voice.beatStructure = 6,4
          a8 a a a a a a a a a
        }
      >>
    }
  >>
}
```



## Beam nibs

Beam nibs at the start and end of beams together with beams attached to solitary notes that look like flat flags are possible with a combination of `stemLeftBeamCount`, `stemRightBeamCount`, and paired `[]` beam indicators.

For imitating right-pointing flat flags on lone notes, use paired `[]` beam indicators and set `stemLeftBeamCount` to zero. For imitating left-pointing flat flags on lone notes, set `stemRightBeamCount` to zero instead (line one).

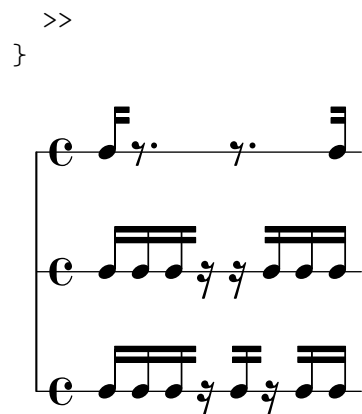
For right-pointing nibs at the end of a run of beamed notes, set `stemRightBeamCount` to a positive value. For left-pointing nibs at the start of a run of beamed notes, set `stemLeftBeamCount` instead (line two).

Sometimes it may make sense for a lone note surrounded by rests to carry both a left- and right-pointing nib. Do this with paired `[]` beam indicators alone (line three).

Note that `\set stemLeftBeamCount` is always equivalent to `\once \set`. In other words, the beam count settings are not “sticky”, so the pair of nibs attached to the lone 16th note in the last example has nothing to do with the `\set` command for the beam before.

```
\score {
  <<
    \new RhythmicStaff {
      \set stemLeftBeamCount = 0
      c16[] r8.
      r8.
      \set stemRightBeamCount = 0
      16[]
    }
    \new RhythmicStaff {
      16 16
      \set stemRightBeamCount = 2
      16 r r
      \set stemLeftBeamCount = 2
      16 16 16
    }
    \new RhythmicStaff {
      16 16
      \set stemRightBeamCount = 2
      16 r16
      16[] r16
      \set stemLeftBeamCount = 2
      16 16
    }
  }
}
```





## Barres que travessen salts de línia

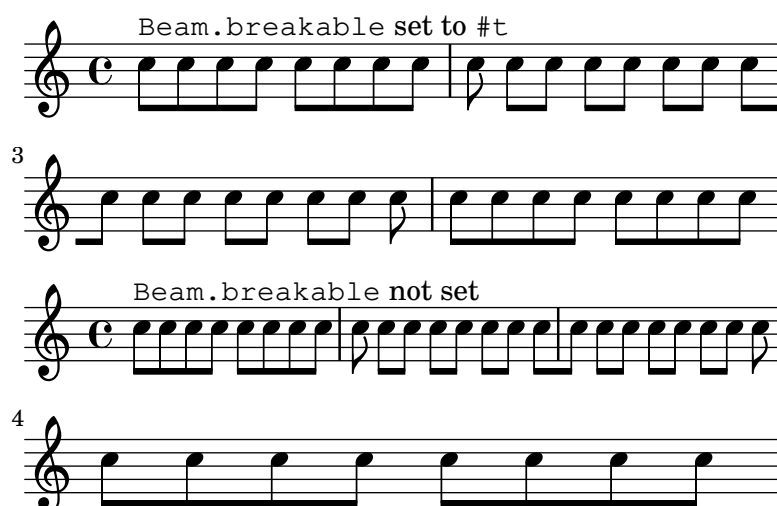
Normalment estan prohibits els salts de línia si les barres travessen les línies divisòries. Es pot canviar aquest comportament com es mostra aquí:

```
music = {
  \repeat unfold 8 c8
  c8 \repeat unfold 7 { c[ c] } c
  \repeat unfold 8 c8
}

\relative c'' {
  <>\markup { \typewriter Beam.breakable set to \typewriter "#t" }
  \override Beam.breakable = ##t
  \music
}

\relative c'' {
  <>\markup { \typewriter Beam.breakable not set }
  \music
}

\paper {
  line-width = 100\mm
}
```



## Canviar el salt de les barres en angle

S'insereixen automàticament barres en angle quan es detecta un interval molt gran entre les notes. Es pot fer un ajustament fi d'aquest comportament mitjançant de la propietat `auto-knee-gap`. Es traça una barra doblada si el salt és més gran que el valor de `auto-knee-gap` més l'amplada de l'objecte barra (que depèn de la duració de les notes i de la inclinació de la barra). De forma predeterminada `auto-knee-gap` està establerta a 5.5 espais de pentagrama.

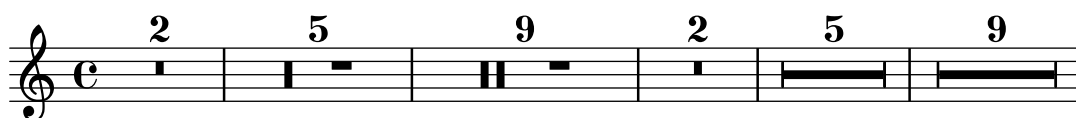
```
{
  f8 f''8 f8 f''8
  \override Beam.auto-knee-gap = #6
  f8 f''8 f8 f''8
}
```



## Canviar la forma dels silencis multicompass

Si hi ha deu compassos de silenci o menys, s'imprimeix en el pentagrama una sèrie de silencis de breu i longa (coneguts en alemany com "Kirchenpausen", «silencis eclesiàstics»); en cas contrari es mostra una barra normal. Aquest nombre predeterminat de deu es pot canviar sobreescrivint la propietat `expand-limit`:

```
\relative c' {
  \compressMMRests {
    R1*2 | R1*5 | R1*9
    \override MultiMeasureRest.expand-limit = 3
    R1*2 | R1*5 | R1*9
  }
}
```



## Modificar el nombre de puntets d'una nota

La quantitat de puntets d'una nota es pot modificar independentment dels puntets que s'escrueixen després d'una nota.

```
\relative c' {
  c4.. a16 r2 |
  \override Dots.dot-count = 4
  c4.. a16 r2 |
  \override Dots.dot-count = 0
  c4.. a16 r2 |
  \revert Dots.dot-count
  c4.. a16 r2 |
}
```



## Canviar el tempo sense indicació metronòmica

Per canviar el tempo a la sortida MIDI sense imprimir res, fem invisible la indicació metronòmica:

```
\score {
  \new Staff \relative c' {
    \tempo 4 = 160
    c4 e g b
    c4 b d c
    \set Score.tempoHideNote = ##t
    \tempo 4 = 96
    d,4 fis a cis
    d4 cis e d
  }
  \layout { }
  \midi { }
}
```



## Canviar el número del grup especial

De forma predeterminada sols s'imprimeix sobre la clau de grup el numerador del grup especial, és a dir, el numerador de l'argument de l'ordre `\tuplet`.

De forma alternativa, es pot imprimir una fracció en la forma numerador:denominador del número de del grup, o eliminar el número.

```
\relative c' {
  \tuplet 3/2 { c8 c c }
  \tuplet 3/2 { c8 c c }
  \override TupletNumber.text = #tuplet-number::calc-fraction-text
  \tuplet 3/2 { c8 c c }
  \omit TupletNumber
  \tuplet 3/2 { c8 c c }
}
```



## Modificar el compàs d'una secció polimètrica utilitzant

### \scaleDurations

La propietat `measureLength`, junt amb `measurePosition`, determina quan cal dibuixar una línia divisòria. No obstant, en utilitzar `\scaleDurations`, l'escalat proporcional de les duracions fa difícil introduir canvis de compàs. En aquest cas s'ha d'establir manualment el valor de `measureLength` utilitzant la funció `ly:make-moment`. El segon argument ha de ser el mateix que el segon argument de `\scaleDurations`.

```
\layout {
  \context {
    \Score
```

```

    \remove "Timing_translator"
    \accepts TimingStaffGroup
  }
  \context {
    \StaffGroup
    \name TimingStaffGroup
    \alias StaffGroup
    \consists "Timing_translator"
  }
}

<<
\new TimingStaffGroup <<
  \new Staff {
    \scaleDurations 8/5 {
      \time 6/5 % to set measure length in Timing
      \context Staff \polymetric \time 6/8
      b8 b b b b b
      \time 4/5 % to set measure length in Timing
      \context Staff \polymetric \time 2/4
      b4 b
    }
  }
>>
\new TimingStaffGroup <<
  \new Staff {
    \clef bass
    \time 2/4
    c2 d e f
  }
>>
>>

```



## Chant or psalm notation

This form of notation is used for psalm chant, where verses are not always of the same length.

```

stemOff = \hide Staff.Stem
stemOn  = \undo \stemOff

```

```

\score {
  \new Staff \with { \remove "Time_signature_engraver" }
  {
    \key g \minor
    \cadenzaOn
    \stemOff a'\breve bes'4 g'4
  }
}

```

```

\stemOn a'2 \section
\stemOff a'\breve g'4 a'4
\stemOn f'2 \section
\stemOff a'\breve~\markup { \italic flexe }
\stemOn g'2 \fine
}
}

```



## Complex time signatures

Odd time signatures (such as “5/8”) can often be played as complex time signatures (e.g. “3/8 + 2/8”), which combine two or more inequal metrics.

LilyPond can make such music quite easy to read and play, by explicitly printing the time signatures and adapting the automatic beaming behavior.

```

\relative c' {
  \time #'((2 . 8) (3 . 8))
  c8 d e fis gis
  c8 fis, gis e d
  c8 d e4 gis8
}

```



## Símbols de direcció y símbols d'agrupació de compàs

L'agrupació de pulsacions dins d'un compàs està controlada per la propietat de context `beatStructure`. Hi ha establerts valors de `beatStructure` per a molts tipus de compassos a `scm/time-signature-settings.scm`. Els valors de `beatStructure` es poden canviar o establir amb `\set`. Com alternativa, es pot usar `\time` per establir tant el compàs com l'estructura de pulsacions. Per això, especifiquem l'agrupació interna de les pulsacions del compàs com una llista de nombres (en la sintaxi de l'Scheme) abans de la indicació del compàs.

`\time` s'aplica al context `Timing`, per la qual cosa no restableix els valors de `beatStructure` ni de `beatBase` que s'estableixen en altres contextos de nivell inferior, com `Voice`.

Si el gravador `Measure_grouping_engraver` està inclòs en un dels contextos de presentació, s'imprimiran signes d'agrupació de pulsacions. Aquests símbols faciliten la lectura de música moderna rítmicament complexa. En aquest exemple, el compàs de 9/8 s'agrupa segons dos patrons diferents utilitzant els dos mètodes, mentre que el compàs de 5/8 s'agrup d'acord amb l'ajustament predeterminat que està a `scm/time-signature-settings.scm`:

```

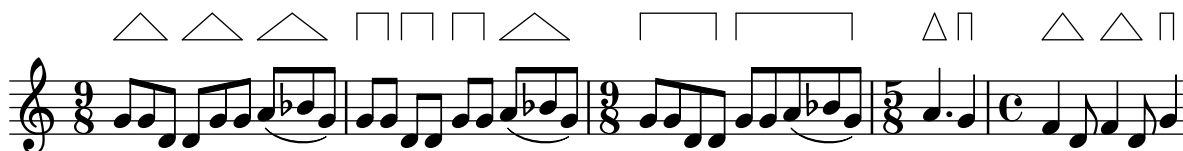
\score {
  \new Voice \relative c'' {
    \time 9/8
    g8 g d d g g a( bes g) |
    \set Timing.beatStructure = 2,2,2,3
    g8 g d d g g a( bes g) |
    \time 4,5 9/8
    g8 g d d g g a( bes g) |
  }
}

```

```

\time 5/8
a4. g4 |
\time 3,3,2 4/4
\set Timing.beatBase = #1/8
f4 d8 f4 d8 g4
}
\layout {
  \context {
    \Staff
    \consists "Measure_grouping_engraver"
  }
}
}

```



## Control de la visibilitat dels corxets de grup especial

El comportament predeterminat de la visibilitat dels corxets de grup de valoració especial és imprimir el corxet a no ser que hi hagi una barra de la mateixa longitud que el grup especial. Per controlar la visibilitat dels corxets de grup, establiu la propietat 'bracket-visibility a #t (sempre imprimir el corxet). #f (no imprimir-lo mai) o #'if-no-beam (imprimir el corxet sols si no hi ha barra).

```

music = \relative c' {
  \tuplet 3/2 { c16[ d e ] f8]
  \tuplet 3/2 { c8 d e }
  \tuplet 3/2 { c4 d e }
}

\new Voice {
  \relative c' {
    \override Score.TextMark.non-musical = ##f
    \textMark "default" \music
    \override TupletBracket.bracket-visibility = #'if-no-beam
    \textMark \markup \typewriter "'if-no-beam" \music
    \override TupletBracket.bracket-visibility = ##t
    \textMark \markup \typewriter "#t" \music
    \override TupletBracket.bracket-visibility = ##f
    \textMark \markup \typewriter "#f" \music
    \omit TupletBracket
    \textMark \markup \typewriter "omit" \music
  }
}

```





## Cow and ride bell example

Two different bells, entered with 'cb' (cow bell) and 'rb' (ride bell).

```
#(define mydrums '((ridebell default #f 3)
                   (cowbell default #f -2)))

\new DrumStaff \with { instrumentName = #"Different Bells" }

\drummode {
  \set DrumStaff.drumStyleTable = #(alist->hash-table mydrums)
  \set DrumStaff.clefPosition = 0.5
  \override DrumStaff.StaffSymbol.line-positions = #'(-2 3)
  \override Staff.BarLine.bar-extent = #'(-1.0 . 1.5)

  \time 2/4
  rb8 8 cb8 16 rb16-> ~ |
  16 8 16 cb8 8 |
}
```



## Crear indicacions metronòmiques en mode de marcatge

Es poden crear indicacions metronòmiques noves en mode de marcatge, però no canvien el tempo en la sortida MIDI.

```
\relative c' {
  \tempo \markup {
    \concat {
      (
        \smaller \general-align #Y #DOWN \note { 16. } #UP
        " = "
        \smaller \general-align #Y #DOWN \note { 8 } #UP
      )
    }
  }
  c1
  c4 c' c,2
}
```



## Gravat manual de les lligadures

Es poden gravar a mà les lligadures modificant la propietat `tie-configuration` de l'objecte `TieColumn`. El primer nombre indica la distància a partir de la tercera línia del pentagrama en espais de pentagrama, i el segon nombre indica la direcció (1 = cap amunt, -1 = cap avall).

```
\relative c' {
  <>^"default"
  g'1 ^~ g

  <>^"0"
  \once \override Tie.staff-position = 0
  g1 ^~ g

  <>^"0.0"
  \once \override Tie.staff-position = 0.0
  g1 ^~ g

  <>^"reset"
  \revert Tie.staff-position
  g1 ^~ g
}

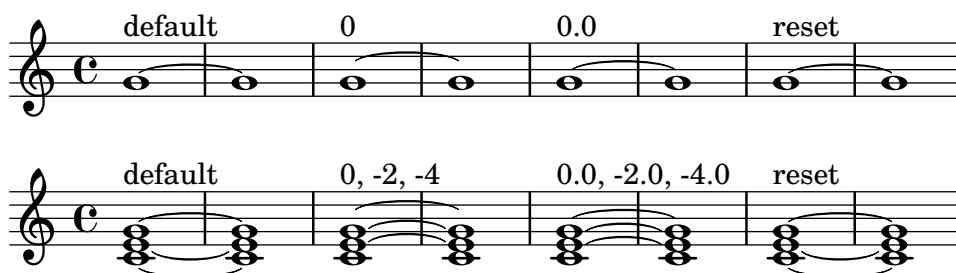
\relative c' {
  \override TextScript.outside-staff-priority = ##f
  \override TextScript.padding = 0

  <>^"default"
  <c e g>1~ <c e g>

  <>^"0, -2, -4"
  \override TieColumn.tie-configuration =
    #'((0 . 1) (-2 . 1) (-4 . 1))
  <c e g>1~ <c e g>

  <>^"0.0, -2.0, -4.0"
  \override TieColumn.tie-configuration =
    #'((0.0 . 1) (-2.0 . 1) (-4.0 . 1))
  <c e g>1~ <c e g>

  <>^"reset"
  \override TieColumn.tie-configuration = ##f
  <c e g>1~ <c e g>
}
```





## Trèmols amb barres flotants

Si la duració total d'un trèmol és menor d'una negra, o exactament d'una blanca, normalment es grava amb totes les barres de corxera tocant les pliques. Certs estils de notació de partitures composen algunes d'aquestes barres com a barres flotants centrades que no toquen les pliques de les figures. El nombre de barres flotants en aquest tipus de trèmol està controlat per la propietat 'gap-count del l'objecte Beam i la separació entre les barres i les pliques es fixa amb la propietat 'gap.

```
\relative c' {
  \repeat tremolo 8 { a32 f }
  \override Beam.gap-count = #1
  \repeat tremolo 8 { a32 f }
  \override Beam.gap-count = #2
  \repeat tremolo 8 { a32 f }
  \override Beam.gap-count = #3
  \repeat tremolo 8 { a32 f }

  \override Beam.gap-count = #3
  \override Beam.gap = #1.33
  \repeat tremolo 8 { a32 f }
  \override Beam.gap = #1
  \repeat tremolo 8 { a32 f }
  \override Beam.gap = #0.67
  \repeat tremolo 8 { a32 f }
  \override Beam.gap = #0.33
  \repeat tremolo 8 { a32 f }
}
```

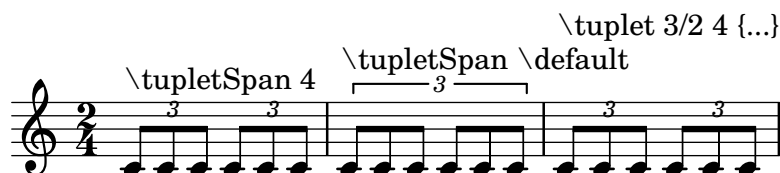


## Entering several tuplets using only one \tuplet command

The property `tupletSpannerDuration` sets how long each of the tuplets contained within the brackets after `\tuplet` should last. Many consecutive tuplets can then be placed within a single `\tuplet` expression, thus saving typing.

There are ways to set `tupletSpannerDuration` besides using a `\set` command. The command `\tupletSpan` sets it to a given duration, or clears it when instead of a duration `\default` is specified. Another way is to use an optional argument with `\tuplet`.

```
\relative c' {
  \time 2/4
  \tupletSpan 4
  \tuplet 3/2 { c8^"\tupletSpan 4" c c c c c }
  \tupletSpan \default
  \tuplet 3/2 { c8^"\tupletSpan \default" c c c c c }
  \tuplet 3/2 4 { c8^"\tuplet 3/2 4 {...}" c c c c c }
}
```

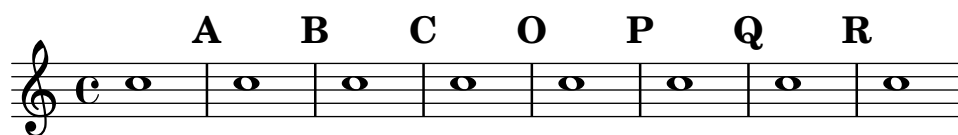


## Forçar que les marques d'assaig comencin en una lletra o nombre donats

Aquest fragment de codi mostra com obtenir marques d'assaig ordenades automàticament, però partint de la lletra o nombre desitjat.

```
\relative c' ' {
  \override Score.RehearsalMark.Y-offset = #3.5

  c1 \mark \default
  c1 \mark \default
  c1 \mark \default
  c1 \mark #14
  c1 \mark \default
  c1 \mark \default
  c1 \mark \default
  c1
}
```



## Generar claudàtors personalitzats

La propietat stencil del grob Flag (l'objecte gràfic claudàtor) es pot fixar a un funció de l'Scheme personalitzat que genera el glif del claudàtor.

```
#(define-public (weight-flag grob)
  (let* ((stem-grob (ly:grob-parent grob X))
         (log (- (ly:grob-property stem-grob 'duration-log) 2))
         (is-up? (eqv? (ly:grob-property stem-grob 'direction) UP))
         (yext (if is-up? (cons (* log -0.8) 0) (cons 0 (* log 0.8))))
         (flag-stencil (make-filled-box-stencil '(-0.4 . 0.4) yext))
         (stroke-style (ly:grob-property grob 'stroke-style))
         (stroke-stencil (if (equal? stroke-style "grace")
                              (make-line-stencil 0.2 -0.9 -0.4 0.9 -0.4)
                              empty-stencil)))
    (ly:stencil-add flag-stencil stroke-stencil)))

% Create a flag stencil by looking up the glyph from the font
#(define (inverted-flag grob)
  (let* ((stem-grob (ly:grob-parent grob X))
         (dir (if (eqv? (ly:grob-property stem-grob 'direction) UP) "d" "u"))
         (flag (retrieve-glyph-flag "" dir "" grob))
         (line-thickness (ly:staff-symbol-line-thickness grob))
         (stem-thickness (ly:grob-property stem-grob 'thickness)))
```

```

        (stem-width (* line-thickness stem-thickness))
        (stroke-style (ly:grob-property grob 'stroke-style))
        (stencil (if (null? stroke-style)
                      flag
                      (add-stroke-glyph flag stem-grob dir stroke-style "")))
        (rotated-flag (ly:stencil-rotate-absolute stencil 180 0 0)))
        (ly:stencil-translate rotated-flag (cons (- (/ stem-width 2)) 0))))

snippetexamplenotes =
{
  \autoBeamOff c'8 d'16 c'32 d'64 \acciaccatura {c'8} d'64
}

{
  \time 1/4
  <>^"Normal flags"
  \snippetexamplenotes

  <>_"Custom flag: inverted"
  \override Flag.stencil = #inverted-flag
  \snippetexamplenotes

  <>^"Custom flag: weight"
  \override Flag.stencil = #weight-flag
  \snippetexamplenotes

  <>_"Revert to normal"
  \revert Flag.stencil
  \snippetexamplenotes
}

```



## Ritmes rasguejats de guitarra

Per a la música de guitarra, és possible mostrar els ritmes de rasgueig, a més de les notes de la melodia, acords i diagrames de posicions.

```
\include "predefined-guitar-fretboards.ly"
```

```

<<
  \new ChordNames \chordmode {
    c1 | f | g | c
  }
  \new FretBoards \chordmode {
    c1 | f | g | c
  }
  \new Voice \with {
    \consists "Pitch_squash_engraver"
  } \relative c'' {

```

```

\improvisationOn
c4 c8 c c4 c8 c
f4 f8 f f4 f8 f
g4 g8 g g4 g8 g
c4 c8 c c4 c8 c
}
\new Voice = "melody" \relative c' {
  c2 e4 e4
  f2. r4
  g2. a4
  e4 c2.
}
\new Lyrics \lyricsto "melody" {
  This is my song.
  I like to sing.
}
>>

```

The image displays a musical score for the song "This is my song. I like to sing." It features a guitar accompaniment and a vocal melody line. The guitar part is written in standard notation with four chords: C, F, G, and C. Each chord is accompanied by a fretboard diagram showing the fingerings. The vocal melody is written in a single staff with a treble clef and a common time signature. The lyrics are written below the melody line.

## Indicacions polimètriques de compàs totalment personalitzades

Tot i que l'element més essencial no és la indicació polimètrica de compàs que es mostra, s'ha inclòs per mostrar la pulsació de la peça, que és la plantilla d'una cançó real dels Balcans.

```

melody = \relative c' {
  \key g \major
  \time #'((3 . 8) (2 . 8) (2 . 8) (3 . 8) (2 . 8) (2 . 8)
            (2 . 8) (2 . 8) (3 . 8) (2 . 8) (2 . 8))
  \set Timing.beamExceptions = #'()
  \set Timing.beatStructure = 3,2,2,3,2,2,2,2,3,2,2
  c8 c c d4 c8 c b c b a4 g fis8 e d c b' c d e4-~ fis8 g \break
  c,4. d4 c4 d4. c4 d c2 d4. e4-~ d4
  c4. d4 c4 d4. c4 d c2 d4. e4-~ d4 \break
}

drum = \new DrumStaff \drummode {
  \repeat volta 2 {
    bd4.~\markup { Drums } sn4 bd \bar ";"
    sn4. bd4 sn \bar ";"
    bd sn bd4. sn4 bd
  }
}

```

```
\new Staff {
  \melody
  \drum
}
```

The image shows a musical score for a staff with melody and drums. The staff has three systems. The first system shows a melody line with eighth notes and a drum line with eighth notes. The second system shows a melody line with eighth notes and a drum line with eighth notes. The third system shows a melody line with eighth notes and a drum line with eighth notes. The drum line is labeled 'Drums'.

## High and low woodblock example

Two Woodblocks, entered with ‘wbh’ (high woodblock) and ‘wbl’ (low woodblock). The length of the bar line has been altered with an `\override` command, otherwise it would be too short. The positions of the two staff lines also have to be explicitly defined.

```
% These lines define the position of the woodblocks in the stave;
% if you like, you can change it or you can use special note heads
% for the woodblocks.
```

```
#(define mydrums '((hiwoodblock default #f 3)
                  (lowwoodblock default #f -2)))
```

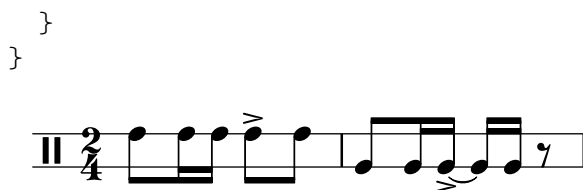
```
woodstaff = {
  % This defines a staff with only two lines.
  % It also defines the positions of the two lines.
  \override Staff.StaffSymbol.line-positions = #'(-2 3)

  % This is necessary; if not entered,
  % the barline would be too short!
  \override Staff.BarLine.bar-extent = #'(-1.0 . 1.5)
  % small correction for the clef:
  \set DrumStaff.clefPosition = 0.5
}
```

```
\new DrumStaff {
  % with this you load your new drum style table
  \set DrumStaff.drumStyleTable = #(alist->hash-table mydrums)

  \woodstaff

  \drummode {
    \time 2/4
    wbh8 16 16 8-> 8 |
    wbl8 16 16-> ~ 16 16 r8 |
```



## Making an object invisible using `\hide`

Applying `\hide` to a grob causes objects of this type to be printed with “invisible ink”. They are not printed, but all of their other behavior is retained:

- the objects still take up space,
- they take part in collision resolution, and
- slurs, ties, and beams can be attached to them as usual.

This snippet demonstrates how to connect different voices using ties. Normally, ties only connect two notes in the same voice. By introducing a tie in a different voice, and blanking the first up-stem in that voice, the tie appears to cross voices.

```
\relative {
  \time 2/4
  <<
  {
    \once \hide Stem
    \once \override Stem.length = #8
    b'8 ~ 8\noBeam
    \once \hide Stem
    \once \override Stem.length = #8
    g8 ~ 8\noBeam
  }
  \\\
  {
    b8 g g e
  }
  >>
}
```

```
\paper {
  line-width = 40\mm
  ragged-right = ##f
}
```



## Fer lligadures d’expressió amb estructura complexa de discontinuïtat

Les lligadures d’expressió es poden construir amb patrons de discontinuïtat complexos mitjançant la definició de la propietat `dash-definition`. `dash-definition` és una llista de paràmetres que defineixen el comportament de discontinuïtat d’un segment de la lligadura d’expressió.

La lligadura es defineix en termes del paràmetre de bezier  $t$  el rang del qual va de 0 a l'esquerra de la lligadura fins a 1 a l'extrem dret de la lligadura. cada element de discontinuïtat és una llista ( $t$ -inici  $t$ -final fracció-discontinuitat període-discontinuitat). La regió de la lligadura des de  $t$ -inici fins a  $t$ -final tindrà una fracció fracció-discontinuitat de cada període-discontinuitat de color negre. període-discontinuitat es defineix en termes d'espais de pentagrama. fracció-discontinuitat s'estableix al valor d'1 per a una lligadura contínua.

```
\relative c' {
  \once \override
    Slur.dash-definition = #'(( 0 0.3 0.1 0.75)
                                (0.3 0.6 1 1 )
                                (0.65 1.0 0.4 0.75))

  c4( d e f)
  \once \override
    Slur.dash-definition = #'((0 0.25 1 1 )
                                (0.3 0.7 0.4 0.75)
                                (0.75 1.0 1 1 ))

  c4( d e f)
}
```



## Control manual de les posicions de les barres

Es poden controlar manualment les posicions de les barres de corxera sobreescrivint el valor del paràmetre `positions` de l'objecte gràfic `Beam`.

```
\relative c' {
  \time 2/4
  % from upper staff-line (position 2) to center (position 0)
  \override Beam.positions = #'(2 . 0)
  c8 c
  % from center to one above center (position 1)
  \override Beam.positions = #'(0 . 1)
  c8 c
}
```



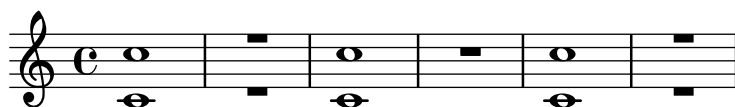
## Combinació dels silencis multicompass a una part polifònica

Quan s'usen silencis multicompass en un pentagrama polifònic, els silencis s'ubiquen de forma diferent depenent de a quina veu pertanyin. Malgrat això, es poden imprimir sobre la mateixa línia del pentagrama, usant l'ajustament que apareix a continuació.

```
normalPos = \once \revert MultiMeasureRest.direction
```

```
<<
{ c'1 R c'1 \normalPos R c'1 R } \
{ c'1 R c'1 \normalPos R c'1 R }
```

&gt;&gt;

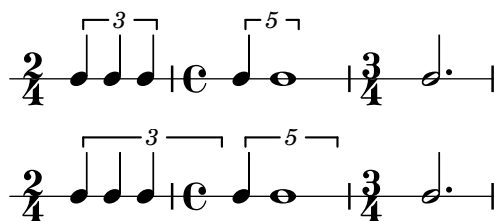


## Modificació de la longitud del corxet de grup especial

Tuplet brackets can be made to extend horizontally to prefatory matter or the next note. By default, tuplet brackets end at the right edge of the final note of the tuplet; full-length tuplet brackets extend farther to the right, either to cover all the non-rhythmic notation up to the following note, or to cover only the whitespace before the next item of notation, be that a clef, time signature, key signature, or another note. The example shows how to switch tuplets to full length mode and how to modify what material they cover.

```
\new RhythmicStaff {
  % Defaults.
  \time 2/4 \tuplet 3/2 { c4 4 4 }
  \time 4/4 \tuplet 5/4 { 4 1 }
  \time 3/4 2.
}

\new RhythmicStaff {
  % Set tuplets to be extendable...
  \set tupletFullLength = ##t
  % ...to cover all items up to the next note
  \set tupletFullLengthNote = ##t
  \time 2/4 \tuplet 3/2 { c4 4 4 }
  % ...or to cover just whitespace.
  \set tupletFullLengthNote = ##f
  \time 4/4 \tuplet 5/4 { 4 1 }
  \time 3/4 2.
}
```



## Desplaçament de les notes amb puntet en polifonia

Quan una nota amb puntet a la veu superior es mou per evitar la col·lisió amb una nota de una altra veu, el comportament predeterminat és desplaçar la nota superior a la dreta. Es pot canviar usant la propietat `prefer-dotted-right` de `NoteCollision`.

```
\new Staff \relative c' <<
{
  f2. f4
  \override Staff.NoteCollision.prefer-dotted-right = ##f
  f2. f4
  \override Staff.NoteCollision.prefer-dotted-right = ##t
  f2. f4
}
```



```

\\
{ e4 e e e e e e e e e e }
>>

```



## Multi-measure rest length control

Multi-measure rests have a length according to their total duration, which is under the control of the space-increment property of the MultiMeasureRest grob; its default value is 2.

```

\relative c' {
  \omit Staff.TimeSignature
  \compressEmptyMeasures

  R1*2 R1*4 R1*64 R1*16 \break
  \override MultiMeasureRest.space-increment = 4
  R1*2 R1*4 R1*64 R1*16
}

```

```

\layout {
  ragged-right = ##t
}

```

## Marcatge de silencis multicompass

Els elements de marcatge aplicats a un silenci multicompass se centren a sobre o a sota del silenci. Els elements de marcatge extensos que s'adjunten a silencis multicompass no produeixen l'expansió del compass. Per expandir un silenci multicompass de forma que càpiga tot el marcatge, utilitzeu un acord buit amb un marcatge aplicat abans del silenci multicompass.

El text aplicat a un silenci separador d'aquesta forma s'alinea per l'esquerra a la posició en la qual la nota estaria situada dins del compass, però si la longitud del compass està determinada per la longitud del text, el text apareixerà centrat.

```

\relative c' {
  \compressMMRests {
    \textLengthOn
    <>\markup { [MAJOR GENERAL] }
    R1*19
    <>\markup { \italic { Cue: ... it is yours } }
    <>\markup { A }
    R1*30\markup { [MABEL] }
    \textLengthOff
    c4\markup { CHORUS } d f c
  }
}

```

```
}
}
```

## Nombres d'agrupació especial diferents o els predeterminats

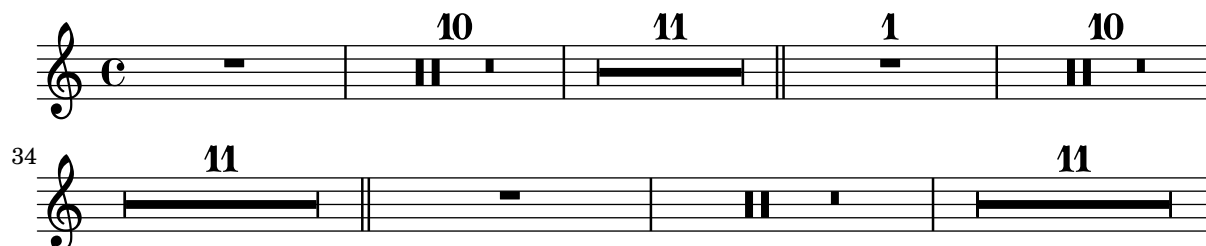
El LilyPond també proporciona funcions de format per imprimir números de grup especial diferents a la pròpia fracció, així com per afegir una figura al número o a la fracció de l'agrupació.

```
\relative c' {
  \once \override TupletNumber.text =
    #(tuplet-number::non-default-tuplet-denominator-text 7)
  \tuplet 3/2 { c4. c4. c4. c4. }
  \once \override TupletNumber.text =
    #(tuplet-number::non-default-tuplet-fraction-text 12 7)
  \tuplet 3/2 { c4. c4. c4. c4. }
  \once \override TupletNumber.text =
    #(tuplet-number::append-note-wrapper
      (tuplet-number::non-default-tuplet-fraction-text 12 7)
      (ly:make-duration 3 0))
  \tuplet 3/2 { c4. c4. c4. c4. }
  \once \override TupletNumber.text =
    #(tuplet-number::append-note-wrapper
      tuplet-number::calc-denominator-text
      (ly:make-duration 2 0))
  \tuplet 3/2 { c8 c8 c8 c8 c8 c8 }
  \once \override TupletNumber.text =
    #(tuplet-number::append-note-wrapper
      tuplet-number::calc-fraction-text
      (ly:make-duration 2 0))
  \tuplet 3/2 { c8 c8 c8 c8 c8 c8 }
  \once \override TupletNumber.text =
    #(tuplet-number::fraction-with-notes
      (ly:make-duration 2 1) (ly:make-duration 3 0))
  \tuplet 3/2 { c4. c4. c4. c4. }
  \once \override TupletNumber.text =
    #(tuplet-number::non-default-fraction-with-notes 12
      (ly:make-duration 3 0) 4 (ly:make-duration 2 0))
  \tuplet 3/2 { c4. c4. c4. c4. }
}
```

## Numbering single measure rests

Multi-measure rests show their length by a number except for single measures. This can be changed by setting `restNumberThreshold`.

```
{
  \compressEmptyMeasures
  R1 R1*10 R1*11 \bar "||"
  \set restNumberThreshold = 0
  R1 R1*10 R1*11 \bar "||"
  \set restNumberThreshold = 10
  R1 R1*10 R1*11
}
```



## Partcombine and \autoBeamOff

The function of `\autoBeamOff` when used with `\partCombine` can be difficult to understand. It may be preferable to use

```
\set Staff.autoBeaming = ##f
```

instead to ensure that auto-beaming is turned off for the entire staff. Use this at a spot in your score where no beam generated by the auto-beamer is still active.

Internally, `\partCombine` works with four voices – up-stem single, down-stem single, combined, and solo. In order to use `\autoBeamOff` to stop all auto-beaming when used with `\partCombine`, it is necessary to use *four* calls to `\autoBeamOff`.

```
{
  % \set Staff.autoBeaming = ##f % turns off all auto-beaming

  \partCombine {
    \autoBeamOff % applies to split up-stems
    \repeat unfold 4 a'16
    % \autoBeamOff % applies to combined stems
    \repeat unfold 4 a'8
    \repeat unfold 4 a'16
    % \autoBeamOff % applies to solo
    \repeat unfold 4 a'16
    r4
  } {
    % \autoBeamOff % applies to split down-stems
    \repeat unfold 4 f'8
    \repeat unfold 8 f'16 |
    r4
    \repeat unfold 4 a'16
  }
}
```



## Percussion example

A short example taken from Stravinsky's *L'histoire du Soldat*.

```

#(define mydrums '((bassdrum   default #f  4)
                   (snare      default #f -4)
                   (tambourine default #f  0)))

U = \stemUp
D = \stemDown

global = {
  \time 3/8 s4.
  \time 2/4 s2*2
  \time 3/8 s4.
  \time 2/4 s2
}

drumsA = {
  \context DrumVoice <<
    \global
    \drummode {
      \autoBeamOff
      \D sn8 \U tamb s |
      sn4 \D sn4 |
      \U tamb8 \D sn \U sn16 \D sn \U sn8 |
      \D sn8 \U tamb s |
      \U sn4 s8 \U tamb
    }
  >>
}

drumsB = \drummode {
  s4 bd8 s2*2 s4 bd8 s4 bd8 s
}

\layout {
  indent = 40\mm
  \context {
    \DrumStaff
    drumStyleTable = #(alist->hash-table mydrums)
  }
}

\score {
  \new StaffGroup <<
    \new DrumStaff \with {
      instrumentName = \markup \center-column {
        "Tambourine"
        "et"
        "caisse claire s. timbre" }
    } \drumsA
    \new DrumStaff \with {

```

```

    instrumentName = "Grosse Caisse"
  }\drumsB
  >>
}

```

Tambourine  
et  
caisse claire s. timbre

Grosse Caisse



## Permettre salts de línia dins de grups especials amb barra

Aquest exemple artificial mostra com es poden permetre tant els salts de línia manuals com els automàtics dins d'un grup de valoració especial unit per una barra. Observeu que aquests grups sincopats s'han de barrar manualment.

```

\layout {
  \context {
    \Voice
    % Permit automatic line breaks within tuplets.
    \remove "Forbid_line_break_engraver"
    % Allow beams to be broken at line breaks.
    \override Beam.breakable = ##t
  }
}

```

```

\relative c' {
  <>^"manually forced line break"
  a8
  \repeat unfold 5 { \tuplet 3/2 { c8[ b g16 a] } }
  \tuplet 3/2 { c8[ b \break g16 a] }
  \repeat unfold 5 { \tuplet 3/2 { c8[ b g16 a] } }
  c8 \bar "||"
}


```

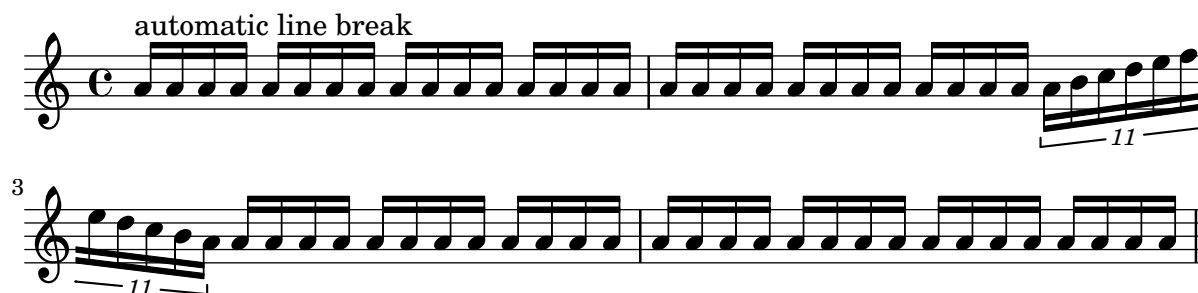
```

\relative c' {
  <>^"automatic line break"
  \repeat unfold 28 a16
  \tuplet 11/8 { a16[ b c d e f e d c b a] }
  \repeat unfold 28 a16 \bar "||"
}

```

manually forced line break





## Col·locar les barres de les notes d'adorn a la mateixa alçada que les barres de notes normals

Quan es col·loquen figures sobre línies addicionals, les seves barres se situen generalment en mig del pentagrama. La barra de les notes d'adorn és més curta i les notes d'adorn sobre les línies addicionals podrien tenir la barra fora del pentagrama. Podem corregir aquest barrat per a les notes d'adorn.

```
\relative c {
  f8[ e]
  \grace {
    f8[ e]
    \override Stem.no-stem-extend = ##f
    f8[ e]
    \revert Stem.no-stem-extend
  }
  f8[ e]
}
```



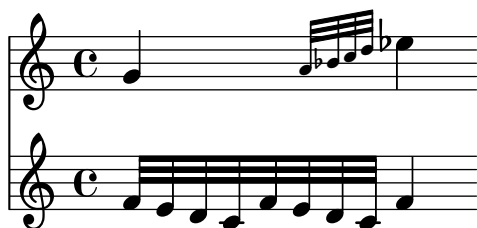
## Posicionament de les notes d'adorn amb espai flotant

En establir la propietat 'strict-grace-spacing' fem que les columnes musicals per a les notes d'adorn siguin 'flotants', és a dir, desacobrades de les notes que no són d'adorn: primer s'aplica l'espaiat de les notes normals, i després es posen les columnes musicals de les notes d'adorn a l'esquerra de les columnes musicals de les notes principals.

```
shiftedGrace =
#(define-music-function (offset music) (number? ly:music?)
  #{
    \override NoteHead.X-offset = #(- offset 0.85)
    \override Stem.X-offset = #offset
    \grace { $music }
    \revert NoteHead.X-offset
    \revert Stem.X-offset
  })

\relative c'' <<
{ g4 \shiftedGrace #-1.3 a32 \shiftedGrace #-0.5 { bes c d } es4 }
{ f,32 e d c f e d c f4 }
>>
```

```
\layout {
  \context {
    \Score
    \override SpacingSpanner.strict-grace-spacing = ##t
  }
}
```



## Posicionar els silencis multicompass

A diferència dels silencis normals, no existeix una ordre predefinida per modificar la posició predeterminada d'un símbol de silenci multicompass sobre el pentagrama, adjuntant-lo a una nota, independentment de quin sigui la seva forma. No obstant, en la música polifònica els silencis multicompass de les veus de numeració parell i imparell estan separats verticalment. La col·locació dels silencis multicompass es pot controlar com es ve a continuació:

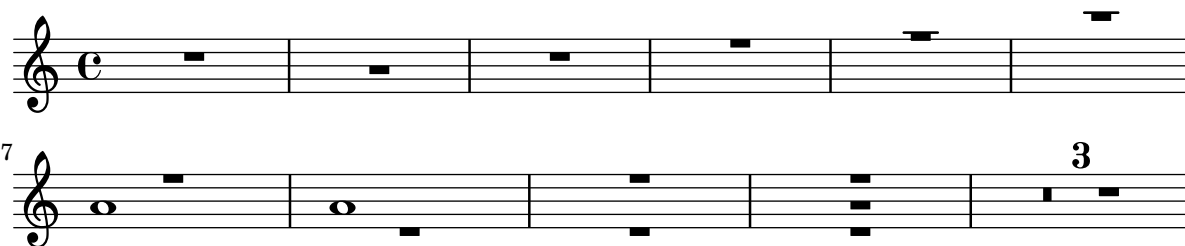
```
\relative c' ' {
  % Multi-measure rests by default are set under the fourth line.
  R1
  % They can be moved using an override or tweak.
  \tweak staff-position -2 R1
  \tweak staff-position 0 R1
  \tweak staff-position 2 R1
  \override MultiMeasureRest.staff-position = 3 R1
  \override MultiMeasureRest.staff-position = 6 R1
  \revert MultiMeasureRest.staff-position
  \break

  % Odd-numbered voices are under the top line.
  << { R1 } \ \ { a1 } >>
  % Even-numbered voices are under the bottom line.
  << { a1 } \ \ { R1 } >>
  % Multi-measure rests in both voices remain separate.
  << { R1 } \ \ { R1 } >>

  % Separating multi-measure rests in more than two voices
  % requires an override or tweak.
  << { R1 } \ \ { R1 } \ \ { \tweak staff-position -2 R1 } >>

  % Using compressed bars in multiple voices requires another override
  % in all voices to avoid multiple instances being printed.
  \compressMMRests
  <<
    \revert MultiMeasureRest.direction
    { R1*3 } \ \
    \revert MultiMeasureRest.direction
```

```
{ R1*3 }
>>
}
```



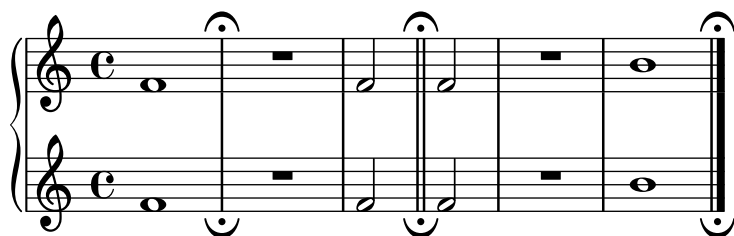
## Positioning opposing fermatas on a bar line

This snippet demonstrates a command that prints fermatas both above and below a bar line. If there would not otherwise be a bar line, it adds a double bar line. Semantically, the command codes a longer-than-normal caesura, which might be considered misuse depending on the situation.

```
twoWayFermata = {
  \once \set Staff.caesuraType = #'((underlying-bar-line . "||"))
  \once \set Staff.caesuraTypeTransform = ##f
  \caesura ^\fermata _\fermata
}
```

```
music = {
  f'1 \twoWayFermata
  R1
  f'2 \twoWayFermata f'2
  R1
  b'1 \twoWayFermata \fine
}
```

```
\new GrandStaff <<
  \new Staff \music
  \new Staff \music
>>
```



## Evitar que una marca de assaig final supprimeixi el corxet d'un grup de valoració especial

En afegir una marca d'assaig mark al final pot succeir que es perdi una indicació de grup especial col·locat al final. Es pot solucionar establint `TupletBracket #'full-length-to-extent` al valor `false`.

```
\new Staff {
  \set tupletFullLength = ##t
```



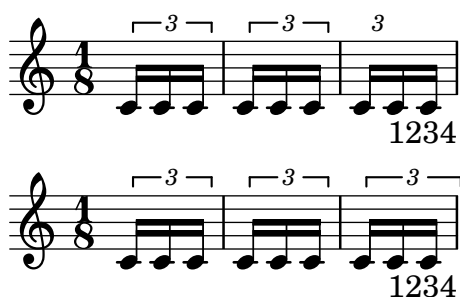
```

\time 1/8
\tuplet 3/2 8 { c'16 c' c' c' c' c' c' c' }
\tweak direction #DOWN \textEndMark "1234"
}

\new Staff {
  \set tupletFullLength = ##t
  \override TupletBracket.full-length-to-extent = ##f

  \time 1/8
  \tuplet 3/2 8 { c'16 c' c' c' c' c' c' c' }
  \tweak direction #DOWN \textEndMark "1234"
}

```



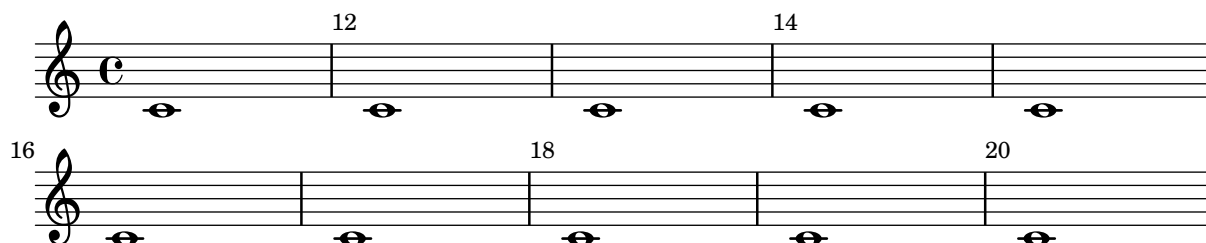
## Imprimir números de compàs a intervals regulars

Es poden imprimir els nombre de compàs a intervals regulars mitjançant l'establiment de la propietat `barNumberVisibility`. Aquí els números de compàs s'imprimeixen cada dos compassos excepte al final de la línia.

```

\relative c' {
  \override Score.BarNumber.break-visibility = #end-of-line-invisible
  \set Score.currentBarNumber = 11
  % Print a bar number every second measure
  \set Score.barNumberVisibility = #(every-nth-bar-number-visible 2)
  c1 | c | c | c | c |
  \break
  c1 | c | c | c | c |
}

```



## Printing bar numbers for broken measures

By default, a bar number of a broken measure is not repeated at the beginning of the new line. Use `first-bar-number-invisible-save-broken-bars` for `barNumberVisibility` to get a parenthesized BarNumber there.

```

\layout {
  \context {

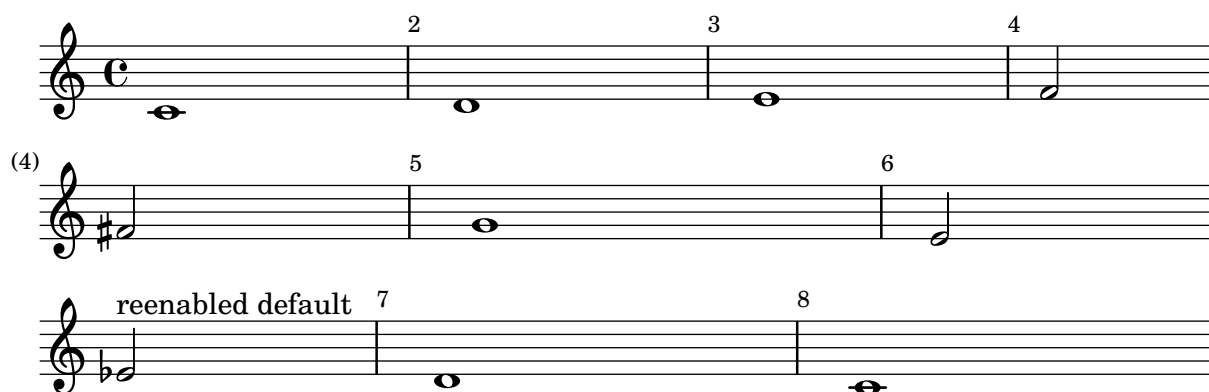
```

```

\Score
  barNumberVisibility = #first-bar-number-invisible-save-broken-bars
  \override BarNumber.break-visibility = ##(#f #t #t)
}
}

\relative c' {
  c1 | d | e | f2 \break
  fis2 | g1 | e2 \break
  <>^"reenabled default"
  % back to default -
  % \unset Score.barNumberVisibility would do so as well
  \set Score.barNumberVisibility =
    #first-bar-number-invisible-and-no-parenthesized-bar-numbers
  es2 | d1 | c
}

```



## Impressió de nombre de compàs dins de rectangles o circumferències

Els nombres de compàs també es poden imprimir dins de rectangles o de circumferències.

```

\relative c' {
  % Center bar numbers except at the beginning of a staff.
  \override Score.BarNumber.self-alignment-X =
    #(break-alignment-list CENTER CENTER 0.3)

  % Prevent bar numbers at the end of a line and permit them elsewhere.
  \override Score.BarNumber.break-visibility = #end-of-line-invisible

  \set Score.barNumberVisibility = #(every-nth-bar-number-visible 4)

  % Increase the size of the bar number by 2.
  \override Score.BarNumber.font-size = 2

  % Draw a circle round the following bar number(s).
  \override Score.BarNumber.stencil
    = #(make-stencil-circler 0.1 0.25 ly:text-interface::print)
  \repeat unfold 7 { c1 } \break

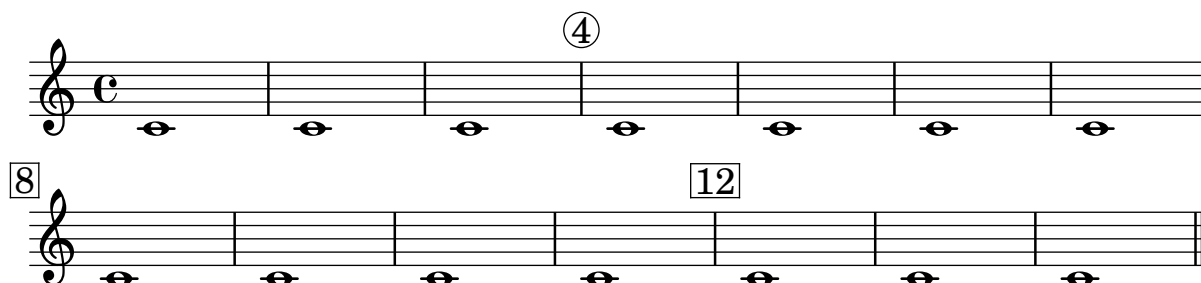
  % Draw a box round the following bar number(s).

```

```

\override Score.BarNumber.stencil
  = #(make-stencil-boxer 0.1 0.25 ly:text-interface::print)
\repeat unfold 7 { c1 } \bar "|."
}

```



## Printing bar numbers using modulo-bar-number-visible

If the remainder of the division of the current bar number by the first argument of `modulo-bar-number-visible` equals its second argument, print a bar number.

This is useful to print the bar number at certain distances. Some examples:

- `(modulo-bar-number-visible 3 2)` → prints 2, 5, 8, ...
- `(modulo-bar-number-visible 4 2)` → prints 2, 6, 10, ...
- `(modulo-bar-number-visible 2 1)` → prints 3, 5, 7, ...
- `(modulo-bar-number-visible 5 0)` → prints 5, 10, 15, ...

```

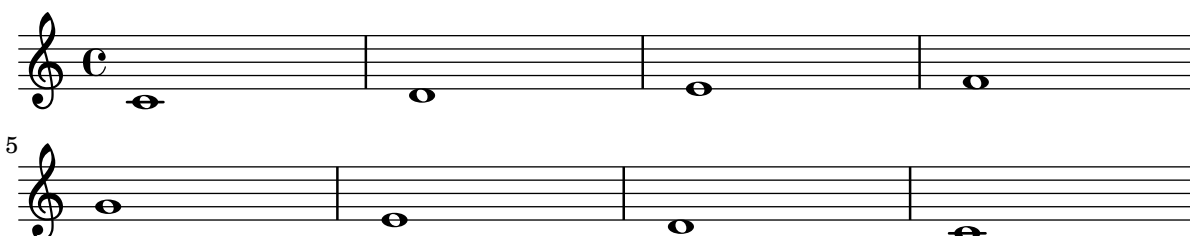
\layout {
  \context {
    \Score
    \override BarNumber.break-visibility = ##(f #t #t)
    barNumberVisibility = #(modulo-bar-number-visible 5 0)
  }
}

```

```

\relative c' {
  c1 | d | e | f \break
  g1 | e | d | c
}

```



## Printing bar numbers with changing regular intervals

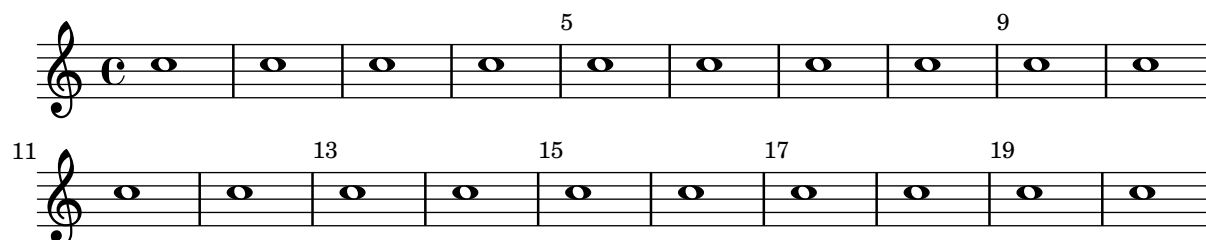
Using the `set-bar-number-visibility` context function, bar number intervals can be changed.

```

\relative c' {
  \override Score.BarNumber.break-visibility = #end-of-line-invisible
  \context Score \applyContext #(set-bar-number-visibility 4)
  \repeat unfold 10 c'1
  \context Score \applyContext #(set-bar-number-visibility 2)
}

```

```
\repeat unfold 10 c
}
```



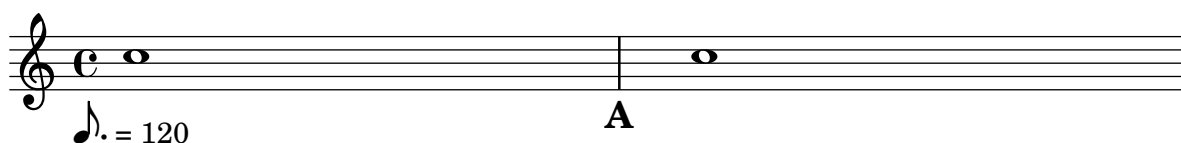
## Impressió d'indicacions de metrònom i lletres d'assaig a sota del pentagrama

De forma predeterminada, les indicacions de metrònom i les lletres d'assaig s'imprimeixen a sobre del pentagrama. Per col·locar-les a sota del pentagrama, simplement ajustem adequadament la propietat `direction` de `MetronomeMark` o de `RehearsalMark`.

```
\layout {
  ragged-right = ##f
}

{
  % Metronome marks below the staff
  \override Score.MetronomeMark.direction = #DOWN
  \tempo 8. = 120
  c''1

  % Rehearsal marks below the staff
  \override Score.RehearsalMark.direction = #DOWN
  \mark \default
  c''1
}
```



## Impressió de música que tingui compassos en cada pentagrama

En el següent fragment de codi, dues parts diferents tenen un compàs completament diferent i malgrat això es mantenen sincronitzades. Les barres de compàs ja no es poden imprimir en el nivell de `Score`; per permetre barres de compàs independents en cada part es tralladen els gravadores `Default_barline_engraver` i `Timing_translator` des del context de partitura `Score` fins el context de pentagrama `Staff`.

Si calen nombres de compàs, el gravador de nombres de compàs `Bar_number_engraver` també s'ha de traslladar, ja que descansa en propietat fixades pel `Timing_translator`; es pot usar un bloc `\with` per afegir nombres de compàs al pentagrama apropiat.

```
global = {
  \time 3/4 s2.*3 \break
  s2.*3
}
```

```

\layout {
  \context {
    \Score
    \remove "Timing_translator"
    \remove "Bar_number_engraver"
    \override SpacingSpanner.uniform-stretching = ##t
    \override SpacingSpanner.strict-note-spacing = ##t
    proportionalNotationDuration = #1/64
  }
  \context {
    \Staff
    \consists "Timing_translator"
  }
  \context {
    \Voice
    \remove "Forbid_line_break_engraver"
    tupletFullLength = ##t
  }
}

Bassklarinette = \new Staff \with {
  \consists "Bar_number_engraver"
  barNumberVisibility = #(every-nth-bar-number-visible 2)
  \override BarNumber.break-visibility = #end-of-line-invisible
} <<
\global
{
  \clef treble
  \time 3/8 d''4. |
  \time 3/4 r8 des''2( c''8) |
  \time 7/8 r4. ees''2 ~ |
  \time 2/4 \tupletUp \tuplet 3/2 { ees''4 r4 d''4 ~ } |
  \time 3/8 \tupletUp \tuplet 4/3 { d''4 r4 } |
  \time 2/4 e''2 |
  \time 3/8 es''4. |
  \time 3/4 r8 d''2 r8 |
}
>>

Perkussion = \new StaffGroup <<
\new Staff <<
\global
{
  \clef percussion
  \time 3/4 r4 c'2 ~ |
  c'2. |
  R2. |
  r2 g'4 ~ |
  g'2. ~ |
  g'2. |
}
>>

```

```

\new Staff <<
  \global {
    \clef percussion
    \time 3/4 R2. |
    g'2. ~ |
    g'2. |
    r4 g'2 ~ |
    g'2 r4 |
    g'2. |
  }
>>
>>

```

```

\score {
  <<
    \Bassklarinette
    \Perkussion
  >>
}

```

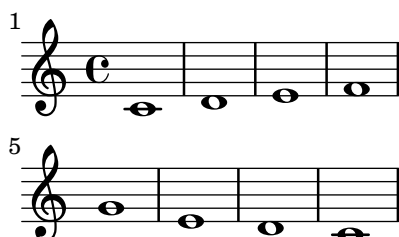
The musical score is written for two staves: a treble clef staff and a percussion staff. The time signature is 3/4. The score is divided into three systems. The first system shows a treble clef staff with a 3/4 time signature and a percussion staff with a 3/4 time signature. The second system is marked with a (4) and shows a treble clef staff with a 3/4 time signature and a percussion staff with a 3/4 time signature. The third system is marked with an 8 and shows a treble clef staff with a 3/4 time signature and a percussion staff with a 3/4 time signature. The score includes various musical notations such as notes, rests, and accidentals.

## Impressió del nombre de compàs al primer compàs

De forma predeterminada se suprimeix el nombre de compàs del primer compàs d'una partitura si és més petit o igual a '1'. En establir el valor de `barNumberVisibility` a `all-bar-numbers-visible`, es pot imprimir qualsevol nombre de compàs per al primer compàs i tots els següents. Observeu que, perquè això funcioni, s'ha d'inserir una línia divisòria buida abans de la primera nota.

```
\paper {
  line-width = 50\mm
}

\relative c' {
  \set Score.barNumberVisibility = #all-bar-numbers-visible
  c1 | d | e | f \break
  g1 | e | d | c
}
```



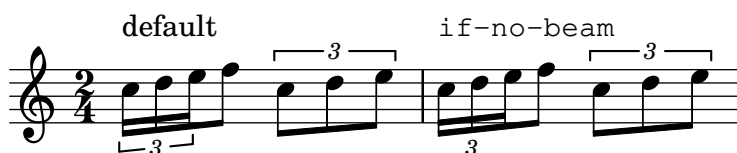
## Printing tuplet brackets on the note head side

Whichever option you choose for controlling the tuplet bracket visibility, it will show or hide the tuplet bracket irrespectively of tuplet bracket placement (stem side or note head side). However, when placing the tuplet bracket on the note head side some authors recommend always printing the tuplet bracket. The option `visible-over-note-heads` can be used to achieve this.

```
music = \relative c'' {
  \tupletNeutral \tuplet 3/2 { c16[ d e ] f8}
  \tupletUp \tuplet 3/2 { c8 d e }
}

\new Voice {
  \relative c' {
    \override TextScript.staff-padding = #2.5

    \time 2/4
    \override TupletBracket.visible-over-note-heads = ##t
    \override Score.TextMark.non-musical = ##f
    <>\markup "default" \music
    \override TupletBracket.bracket-visibility = #'if-no-beam
    <>\markup \typewriter "if-no-beam" \music
  }
}
```



## Redefinició dels valors globals predeterminats per a notes d'adorn

Els valors predeterminats per a les notes d'adorn estan emmagatzemats en els identificadors `startGraceMusic`, `stopGraceMusic`, `startAcciaccaturaMusic`, `stopAcciaccaturaMusic`, `startAppoggiaturaMusic` i `stopAppoggiaturaMusic`, que estan definits al fitxer `ly/grace-init.ly`. Redefinint-los es poden obtenir altres efectes.

```
startAcciaccaturaMusic = {
  <>(
    \override Flag.stroke-style = "grace"
    \slurDashed
  }
```

```
stopAcciaccaturaMusic = {
  \revert Flag.stroke-style
  \slurSolid
  <>
}
```

```
\relative c' {
  \acciaccatura d8 c1
}
```

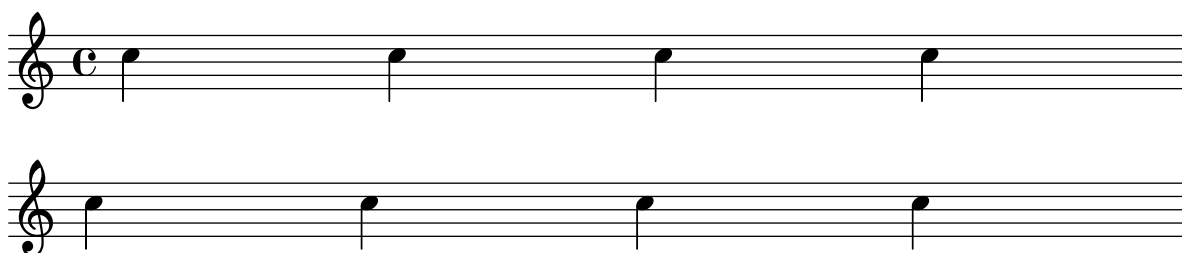


## Supressió dels nombres de compàs de tota la partitura

Es poden eliminar completament els nombres de compàs traient el gravador `Bar_number_engraver` del context de `Score`.

```
\layout {
  \context {
    \Score
    \omit BarNumber
    % or:
    % \remove "Bar_number_engraver"
  }
}
```

```
\relative c' {
  c4 c c c \break
  c4 c c c
}
```





## Estils de silencis

Els silencis es poden imprimir en diferents estils.

```
restsA = {
  r\maxima r\longa r\breve r1 r2 r4 r8 r16 s32
  s64 s128 s256 s512 s1024 s1024
}
restsB = {
  r\maxima r\longa r\breve r1 r2 r4 r8 r16 r32
  r64 r128 r256 r512 r1024 s1024
}

\new Staff \relative c {
  \omit Score.TimeSignature
  \cadenzaOn

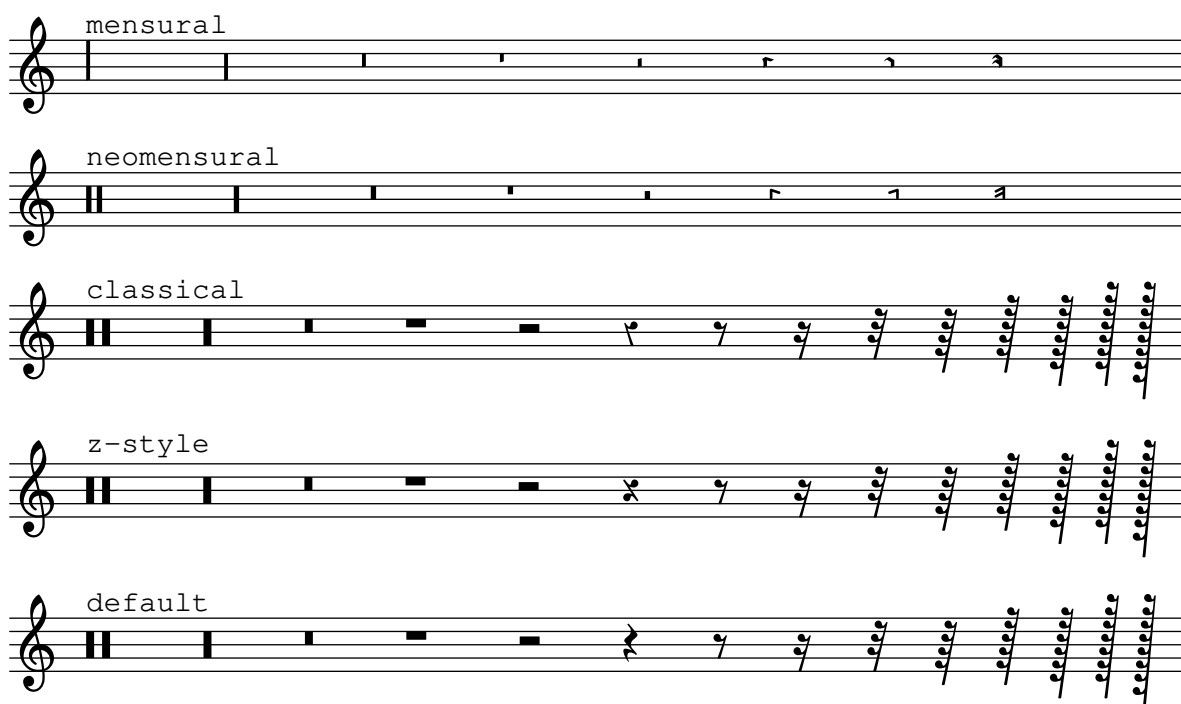
  \override Staff.Rest.style = #'mensural
  <>\markup \typewriter { mensural } \restsA \bar "" \break

  \override Staff.Rest.style = #'neomensural
  <>\markup \typewriter { neomensural } \restsA \bar "" \break

  \override Staff.Rest.style = #'classical
  <>\markup \typewriter { classical } \restsB \bar "" \break

  \override Staff.Rest.style = #'z
  <>\markup \typewriter { z-style } \restsB \bar "" \break

  \override Staff.Rest.style = #'default
  <>\markup \typewriter { default } \restsB \bar "" \break
}
```



## Alteració dels finals de barra predeterminats

Per gravar les barres agrupades en la forma 3-4-3-2 s'ols cal modificar l'estructura de polsos.

```
\relative c' ' {
  \time 12/8

  % Default beaming
  a8 a a a a a a a a a a

  % Set new values for beam endings
  \set Score.beatStructure = 3,4,3,2
  a8 a a a a a a a a a a
}
```



## Barres rítmiques

Als fulls guia d'acords o fulls guia “senzilles”, a vegades no s'imprimeix realment cap nota, i en el seu lloc es fa una notació que té sols “patrons rítmics” i acords a sobre dels compassos, donant l'estructura de la cançó. Aquesta funcionalitat és útil, per exemple, en crear o transcriure l'estructura d'una cançó i també si es volen compartir els fulls guia amb guitarristes o músics de jazz. La forma estàndard en la qual hi ha suport per a aquesta modalitat usant `\repeat percent` no és adequada aquí perquè el primer compàs hauria de ser una nota o silenci normals. Aquest exemple mostra dues solucions al problema, redefinint els silencis normals perquè s'imprimeixin com a barres inclinades (si la duració de cada pols no és una negra, substituïrem el `r4` que apareix a les definicions amb un silenci de la duració adequada).

```
startPat = {
  \improvisationOn
  \omit Stem
}
stopPat = {
  \improvisationOff
  \undo \omit Stem
}

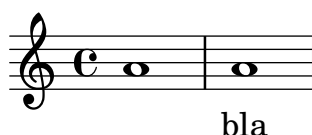
\new Voice \with {
  \consists Pitch_squash_engraver
} {
  c'4 d' e' f' |
  \startPat
  4 4 4 4 |
  \stopPat
  f'4 e' d' c'
}
```



## Silencis de separació en mode de lletra

La sintaxi `s` per als silencis de desplaçament sols està disponible als modes de nota i d'acord. En altres situacions, per exemple en escriure la lletra de les cançons, es recomana usar l'ordre `\skip`.

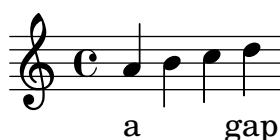
```
<<
  \relative c'' { a1 | a }
  \new Lyrics \lyricmode { \skip1 bla1 }
>>
```



## Silencis de separació en mode de lletra (2)

Tot i que no es poden usar els silencis de separació `s` dins de `\lyricmode` (s'agafen com una "s", literal, no com un espai), sí hi ha disponibles les comtes dobles ("" ) i la barra baixa (\_). Així com per exemple:

```
<<
  \relative c'' { a4 b c d }
  \new Lyrics \lyricmode { a4 "" _ gap }
>>
```



## Stemlets (pliques de mida reduïda)

En certes convencions de notació es permet que les barres s'estenguin per sobre dels silencis. Depenent de les nostres preferències, aquestes barres poden presentar petites pliques perquè l'ull aprengui més fàcilment el ritme, i en alguns casos de música moderna el propi silenci s'omet i romanen sols les petites pliques sense cap.

Aquest fragment de codi mostra un progressió a partir de la notació tradicional, passant per barres sobre silencis i pliques sobre els silencis, fins les pliques sols. Les petites pliques o Stemlets es generen sobreescrivint la propietat `'stemlet-length` de l'objecte `Stem`, mentre que els silencis queden ocults establint `'transparent = ##t`.

Alguns elements de `\markup` s'inclouen en la font per imprimir títols sobre cada estil de notació.

```
\paper {
  ragged-right = ##f
}

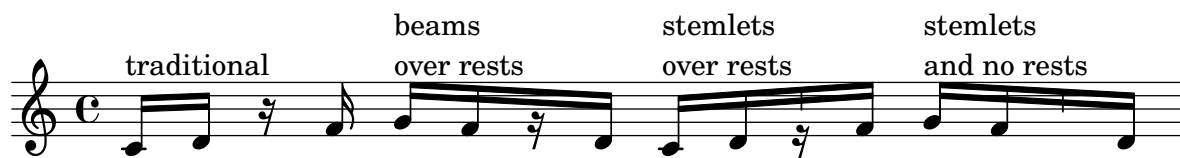
{
  c'16^\markup { traditional } d' r f'
  g'16[^\markup \column { "beams" "over rests" } f' r d']

  % N.B. use Score.Stem to set for the whole score.
  \override Staff.Stem.stemlet-length = #0.75
}
```

```

c'16[~\markup \column { "stemlets" "over rests" } d' r f']
g'16[~\markup \column { "stemlets" "and no rests" } f']
\once \hide Rest
r16 d']
}

```



## Barres que respecten el pols estrictament

Es poden fer que les barres secundàries apuntin en la direcció del pols o fracció a que pertanyen. La primera barra evita els corxets aïllats (que és el comportament predeterminat); la segona barra segueix el pols o fracció estrictament.

```

\relative c' {
  \time 6/8
  a8. a16 a a
  \set strictBeatBeaming = ##t
  a8. a16 a a
}

```



## Subdivisió de barres

Les barres de semicorxera, o de figures més breus, no es subdivideixen de forma predeterminada. És a dir, les tres (o més) barres s'amplien sense trencar-se sobre grups complets de notes. Aquest comportament es pot modificar per subdividir les barres en subgrups mitjançant l'establiment de la propietat `subdivideBeams`. Quan està activada, les barres es subdivideixen a intervals definits pel valor actual de `beatBase` mitjançant la reducció de les barres repetides a una sola entre els subgrups. Observeu que el valor predeterminat de `beatBase` és un més que el denominador del tipus de compàs actual, si no es fixa explícitament. S'ha d'ajustar a una fracció que dona la duració del subgrup de barres utilitzant la funció `ly:make-moment`, como es veu en aquest fragment de codi. Així mateix, quan es modifica `beatBase`, s'hauria de canviar també `beatStructure` perquè correspongui al `beatBase` nou:

```

\relative c' {
  \time 1/4

  <>~"default"
  c32 c c c c c c c

  <>~"with subdivision"
  \set subdivideBeams = ##t
  c32 c c c c c c c

  <>~"min 1/8"
  \once \set beamMinimumSubdivision = #1/8
  c32 c c c c c c c
}

```

```

<>~"max 1/16"
\once \set beamMaximumSubdivision = #1/16
c32 c c c c c c c c

<>~"max 3/8"
\once \set beamMaximumSubdivision = #3/8
\repeat unfold 16 c64

<>~"min 1/32, max 1/64"
% Set maximum beam subdivision interval to 1/64 to limit
% subdivision depth, despite not being metrically correct.
\once \set beamMinimumSubdivision = #1/32
\once \set beamMaximumSubdivision = #1/64
\repeat unfold 32 c128
\break

<>~"beams with incomplete subdivisions"
c32 c c c c c c c r32
c32 c c c c c r16.

<>~\markup { "the same with"
               \typewriter { "respectIncomplete=#t" } }
\set respectIncompleteBeams = ##t
% The incomplete subgroup extends the completed subgroup.
c32 c c c c c c c r32
% No visual change since we have only two stems in the
% incomplete subgroup.
c32 c c c c c r16.
}

```

The image displays three staves of musical notation illustrating different beam settings in a music engraving software. The first staff, in 4/4 time, shows four measures: 'default' (a single beam of 8 eighth notes), 'with subdivision' (a beam of 8 eighth notes with a subdivision line), 'min 1/8' (a beam of 8 eighth notes with a minimum subdivision line), and 'max 1/16' (a beam of 8 eighth notes with a maximum subdivision line). The second staff, in 5/4 time, shows two measures: 'max 3/8' (a beam of 8 eighth notes with a maximum subdivision line) and 'min 1/32, max 1/64' (a beam of 8 eighth notes with a minimum and maximum subdivision line). The third staff, in 7/4 time, shows two measures: 'beams with incomplete subdivisions' (a beam of 8 eighth notes with a subdivision line) and 'the same with respectIncomplete=#t' (a beam of 8 eighth notes with a subdivision line, where the incomplete subgroup extends the completed subgroup).

## Tam-tam example

A tam-tam example, entered with 'tt'.

```

#(define mydrums '((tamtam default #f 0)))

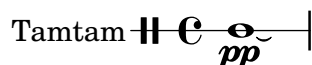
\new DrumStaff \with { instrumentName = #"Tamtam" }

\drummode {
  \set DrumStaff.drumStyleTable = #(alist->hash-table mydrums)
  \override Staff.StaffSymbol.line-positions = #'( 0 )
}

```

```
\override Staff.BarLine.bar-extent = #'(-1.5 . 1.5)

tt 1 \pp \laissezVibrer
}
```



## Tambourine example

A tambourine example, entered with ‘tamb’.

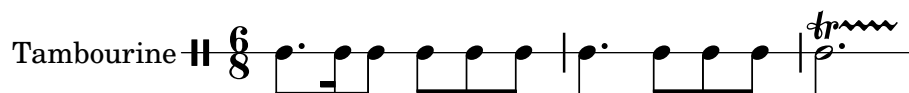
```

#(define mydrums '((tambourine default #f 0)))

\new DrumStaff \with { instrumentName = #"Tambourine" }

\drummode {
  \set DrumStaff.drumStyleTable = #(alist->hash-table mydrums)
  \override Staff.StaffSymbol.line-positions = #'( 0 )
  \override Staff.BarLine.bar-extent = #'(-1.5 . 1.5)

  \time 6/8
  tamb8. 16 8 8 8 8 |
  tamb4. 8 8 8 |
  % The trick with the scaled duration and the shorter rest
  % is necessary for the correct ending of the trill-span!
  tamb2.*5/6 \startTrillSpan s8 \stopTrillSpan |
}
```



## Rectangle de tres segments visibles

Aquest exemple mostra com afegir una ordre de marcatge per obtenir un rectangle de tres segments visibles rodejant un element de text (o un altre element de marcatge).

```

% New command to add a three-sided box, with sides north, west, and south.
% Based on the `box-stencil` command defined in `scm/stencil.scm`.
% Note that ";;" is used to comment a line in Scheme.
#(define-public (NWS-box-stencil stencil thickness padding)
  "Add a box around STENCIL, producing a new stencil."
  (let* ((x-ext (interval-widen (ly:stencil-extent stencil X) padding))
        (y-ext (interval-widen (ly:stencil-extent stencil Y) padding))
        (y-rule (make-filled-box-stencil (cons 0 thickness) y-ext))
        (x-rule (make-filled-box-stencil
                  (interval-widen x-ext thickness) (cons 0 thickness))))
    ;; (set! stencil (ly:stencil-combine-at-edge stencil X 1 y-rule padding))
    (set! stencil (ly:stencil-combine-at-edge stencil X LEFT y-rule padding))
    (set! stencil (ly:stencil-combine-at-edge stencil Y UP x-rule 0.0))
    (set! stencil (ly:stencil-combine-at-edge stencil Y DOWN x-rule 0.0))
    stencil))

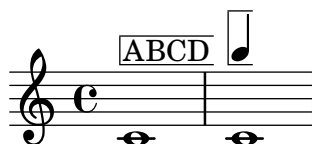
% The corresponding markup command, based on the `\\box` command defined
```

```
% in `scm/define-markup-commands.scm`.
#(define-markup-command (NWS-box layout props arg) (markup?)
  #:properties ((thickness 0.1) (font-size 0) (box-padding 0.2))
  "Draw a box round ARG.
```

Look at THICKNESS, BOX-PADDING, and FONT-SIZE properties to determine line thickness and padding around the markup."

```
(let ((pad (* (magstep font-size) box-padding))
      (m (interpret-markup layout props arg)))
  (NWS-box-stencil m thickness pad)))
```

```
\relative c' {
  c1^\markup { \NWS-box ABCD }
  c1^\markup { \NWS-box \note {4} #1.0 }
}
```



## Time signature in brackets

The time signature can be enclosed within brackets.

```
\relative c' ' {
  \override Staff.TimeSignature.stencil = #(lambda (grob)
    (bracketify-stencil (ly:time-signature::print grob) Y 0.1 0.2 0.1))
  \time 2/4
  a4 b8 c
}
```



## Compàs entre parèntesis

La indicació de compàs pot envoltar-se entre parèntesi.

```
\relative c' ' {
  \override Staff.TimeSignature.stencil = #(lambda (grob)
    (parenthesize-stencil (ly:time-signature::print grob) 0.1 0.4 0.4 0.1))
  \time 2/4
  a4 b8 c
}
```



## Indicació de compàs imprimint sols el numerador (en lloc de la fracció)

A vegades, la indicació de compàs no ha d'imprimir la fracció completa (per exemple 7/4), sinó sols el numerador (7 en aquest cas). Això es pot fer fàcilment utilitzant `\override Staff.TimeSignature.style = #'single-number` per canviar l'estil permanentment. Usant `\revert Staff.TimeSignature.style`, es pot revertir el canvi. Per aplicar l'estil d'un dígit únic a una sola indicació de compàs, utilitzeu l'ordre `\override` i anteposeu l'ordre `\once`.

```
\relative c' ' {
  \time 3/4
  c4 c c
  % Change the style permanently
  \override Staff.TimeSignature.style = #'single-number
  \time 2/4
  c4 c
  \time 3/4
  c4 c c
  % Revert to default style:
  \revert Staff.TimeSignature.style
  \time 2/4
  c4 c
  % single-number style only for the next time signature
  \tweak style #'single-number \time 5/4
  c4 c c c c
  \time 2/4
  c4 c
}
```



## Ajustament de la disposició de les notes d'adorn dins de la música

La disposició de les expressions d'adorn es pot canviar al llarg de tota la música usant les funcions `add-grace-property` i `remove-grace-property`. L'exemple següent esborra la definició de la direcció de la plica per a aquest nota d'adorn, de manera que les pliques no sempre apunten cap a dalt, i canvia la forma predeterminada dels caps a aspes.

```
\relative c' ' {
  \new Staff {
    $(remove-grace-property 'Voice 'Stem 'direction)
    $(add-grace-property 'Voice 'NoteHead 'style 'cross)
    \new Voice {
      \acciaccatura { f16 } g4
      \grace { d16 e } f4
      \appoggiatura { f,32 g a } e2
    }
  }
}
```





## User-defined time signatures

New time signature styles can be defined. The time signature in the second measure is printed upside down in both staves.

```
#(add-simple-time-signature-style 'topsy-turvy
  (lambda (fraction)
    (make-rotate-markup 180 (make-compound-meter-markup fraction))))
```

```
<<
\new Staff {
  \time 3/4 f'2.
  \override Score.TimeSignature.style = #'topsy-turvy
  \time 3/4 R2. \bar "|."
}
\new Staff {
  R2. e''
}
>>
```



## Ús d'estils alternatius per als corxets

Es poden imprimir estils alternatius del corxet o ganxo de les corxeres i figures menors, mitjançant la sobreescritura de la propietat stencil de l'objecte Flag. Són valors vàlids modern-straight-flag, old-straight-flag i flat-flag.

```
"@" =
#(define-music-function (music) (ly:music?)
  #{ \set stemLeftBeamCount = 0 $music [] #})

testnotes = {
  \autoBeamOff
  c8 d16 e''32 f64 \acciaccatura { g,,,8 } a128 b
}

\relative c' {
  \override TextScript.staff-padding = 6
  \time 1/4
  <>^"default" \testnotes
  \override Flag.stencil = #modern-straight-flag
  <>_"modern straight" \testnotes
  \override Flag.stencil = #old-straight-flag
  <>^"old straight" \testnotes
  \override Flag.stencil = #flat-flag
  <>_"flat" \testnotes
  \revert Flag.stencil
```

```

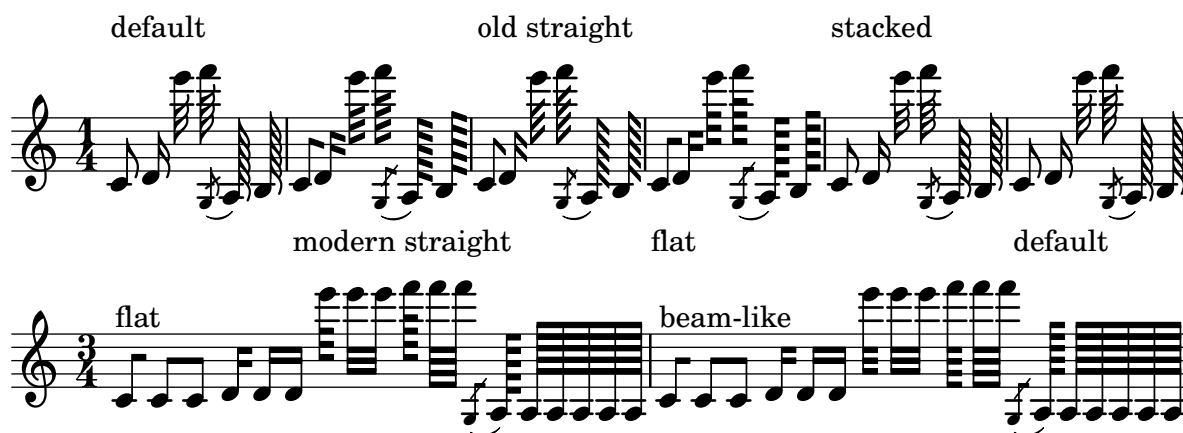
\flagStyleStacked
  <>^"stacked" \testnotes
\flagStyleDefault
  <>_"default" \testnotes
}

\relative c' {
  \time 3/4
  \override Flag.stencil = #flat-flag

  <>^"flat" c8 c[ c] d16 d[ d] e''32 e[ e] f64 f[ f]
  \acciaccatura { g,,,8 } a128 a[ a a a a]
  <>^"beam-like" @c8 c[ c] @d16 d[ d] @e''32 e[ e] @f64 f[ f]
  \acciaccatura { g,,,8 } @a128 a[ a a a a]
}

\layout {
  indent = 0
  \context {
    \Score
    \override NonMusicalPaperColumn.line-break-permission = ##f
  }
}

```



## Utilitzar la barra que tatxa les notes amb notes normals

És possible aplicar la barreta que creua la barra de les acciaccatures, en altres situacions.

```

\relative c' {
  \override Flag.stroke-style = "grace"
  c8( d2) e8( f4)
}

```



## Ús de les lligadures als arpegis

Algunes vegades s'usen lligadures d'unió per escriure els arpegis. En aquest cas, les dues notes lligades no han de ser consecutives. Això es pot aconseguir establint la propietat `tieWaitForNote`

al valor `#t`. La mateixa funcionalitat és d'utilitat, per exemple, per lligar un tremol a un acord, però en principi també es pot usar per a notes normals consecutives. 1

```
\relative c' {
  \set tieWaitForNote = ##t
  \grace { c16[ ~ e ~ g] ~ } <c, e g>2
  \repeat tremolo 8 { c32 ~ c' ~ } <c c,>1
  e8 ~ c ~ a ~ f ~ <e' c a f>2
  \tieUp
  c8 ~ a
  \tieDown
  \tieDotted
  g8 ~ c g2
}
```



### 3 Expressive marks

See also Secció “Expressive marks” in *Referencia de la Notación*.

#### Envoltar entre parèntesis una marca expressiva o una nota d’un acord

La funció `\parenthesize` és un ajustament especial que envolta objectes entre parèntesis. EL grob associat és `ParenthesesItem`.

```
\relative c' {
  c2-\parenthesize ->
  \override Parentheses.padding = #0.1
  \override Parentheses.font-size = #-4
  <d \parenthesize f a>2
}
```



#### Afegir marques de temps a glissandos llargs

Els temps que se salten a glissandos molt llargs s’indiquen a vegades mitjançant marques de temps, que sovint consisteixen en figures sense cap. Aquestes pliques es poden usar també per allotjar indicacions expressives intermèdies.

Si les pliques no queden ben alineades amb el glissando, podria caldre recol·locar-les lleugerament.

```
glissandoSkipOn = {
  \override NoteColumn.glissando-skip = ##t
  \hide NoteHead
  \override NoteHead.no-ledgers = ##t
}
```

```
glissandoSkipOff = {
  \revert NoteColumn.glissando-skip
  \undo \hide NoteHead
  \revert NoteHead.no-ledgers
}
```

```
\relative c' {
  r8 f8\glissando \glissandoSkipOn f4 g a |
  a8\noBeam \glissandoSkipOff a8
  r8 f8\glissando \glissandoSkipOn g4 a8 \glissandoSkipOff a8 |
  r4 f\glissando\< \glissandoSkipOn a4\> \glissandoSkipOff b8\! r |
}
```



## Adjusting slur positions vertically

Using `\override Slur.positions` it is possible to set the vertical position of the start and end points of a slur to absolute values (or rather, forcing LilyPond's slur algorithm to consider these values as desired). In many cases, this means a lot of trial and error until good values are found. You probably have tried the `\offset` command next just to find out that it doesn't work for slurs, emitting a warning instead.

The code in this snippet allows you to tweak the vertical start and end positions by specifying *relative* changes, similar to `\offset`.

Syntax: `\offsetPositions #'(dy1 . dy2)`

```
offsetPositions =
#(define-music-function (offsets) (number-pair?)
  #{
    \once \override Slur.control-points =
      #(lambda (grob)
        (match-let (((_ . y1) _ _ (_ . y2))
                    (ly:slur::calc-control-points grob))
          ((off1 . off2) offsets))
        (set! (ly:grob-property grob 'positions)
              (cons (+ y1 off1) (+ y2 off2)))
        (ly:slur::calc-control-points grob)))
  #})

\relative c' {
  c4(^"default" c, d2)
  \offsetPositions #'(0 . 1)
  c'4(^"(0 . 1)" c, d2)
  \offsetPositions #'(0 . 2)
  c'4(^"(0 . 2)" c, d2)
  \bar "||"
  g4(^"default" a d'2)
  \offsetPositions #'(1 . 0)
  g,,4(^"(1 . 0)" a d'2)
  \offsetPositions #'(2 . 0)
  g,,4(^"(2 . 0)" a d'2)
}
```



## Ajustar la forma de les caigudes i pujades de to

Pot caldre ajustar la propietat `shortest-duration-space` per poder ajustar la mida de les caigudes i pujades de to («falls» i «doits»).

```
\relative c' {
  \override Score.SpacingSpanner.shortest-duration-space = 4.0
  c2-\bendAfter 5
  c2-\bendAfter -4.75
  c2-\bendAfter 8.5
  c2-\bendAfter -6
}
```

}



## Aligning the ends of hairpins to NoteColumn directions

The ends of hairpins may be aligned to the LEFT, CENTER, or RIGHT of NoteColumn grobs by overriding the property `endpoint-alignments`, which is a pair of numbers representing the left and right ends of the hairpin. `endpoint-alignments` are expected to be directions (either -1, 0 or 1). Other values will be transformed with a warning. The right end of a hairpin terminating at a rest is not affected, always ending at the left edge of the rest.

{

```
c'2\< <c' d'>\! |
```

```
\override Hairpin.endpoint-alignments = #'(1 . -1)
```

```
c'2\< <c' d'>\! |
```

```
\override Hairpin.endpoint-alignments = #'(,LEFT . ,CENTER)
```

```
c'2\< <c' d'>\! |
```

}



## Formes alternatives de la figura breu

Les figures de breu també estan disponibles amb dues línies verticals a les vores del cap en lloc d'una sola línia i la forma en estil barroc.

```
\relative c' {
```

```
\time 4/2
```

```
c\breve |
```

```
\override Staff.NoteHead.style = #'altdefault
```

```
b\breve
```

```
\override Staff.NoteHead.style = #'baroque
```

```
b\breve
```

```
\revert Staff.NoteHead.style
```

```
a\breve
```

}



## Lligadures asimètriques

Es pot fer que una lligadura d'expressió sigui asimètrica per adaptar-se millor un patró asimètric de notes.

```
slurNotes = { d,8( a' d f a f' d, a) }
```

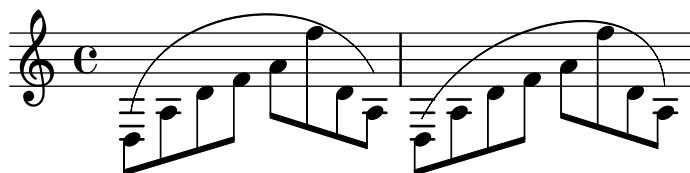
```
\relative c' {
```

```
\stemDown
```

```

\slurUp
\slurNotes
\once \override Slur.eccentricity = #3.0
\slurNotes
}

```



## Marques de respiració

Les marques de respiració estan disponibles per diversos gustos: coma (la predeterminada), ratlla curta, v baixa i “vies del tren” (cesura).

```

\new Staff \relative c'' {
  \key es \major
  \time 3/4
  % this bar contains no \breathe
  << { g4 as g } \ { es4 bes es } >> |
  % Modern notation:
  % by default, \breathe uses the rcomma, just as if saying:
  % \override BreathingSign.text =
  %   #(make-musicglyph-markup "scripts.rcomma")
  << { g4 as g } \ { es4 \breathe bes es } >> |

  % rvarcomma and lvarcomma are variations of the default rcomma
  % and lcomma
  % N.B.: must use Staff context here, since we start a Voice below
  \override Staff.BreathingSign.text =
    \markup { \musicglyph "scripts.rvarcomma" }
  << { g4 as g } \ { es4 \breathe bes es } >> |

  % raltcomma and laltcomma are alternative variations of the
  % default rcomma and lcomma
  \override Staff.BreathingSign.text =
    \markup { \musicglyph "scripts.raltcomma" }
  << { g4 as g } \ { es4 \breathe bes es } >> |

  % vee
  \override BreathingSign.text =
    \markup { \musicglyph "scripts.uupbow" }
  es8[ d es f g] \breathe f |

  % caesura
  \override BreathingSign.text =
    \markup { \musicglyph "scripts.caesura.curved" }
  es8[ d] \breathe es[ f g f] |
  es2 r4 \bar "||"
}

```



## Regulador interromput

Per fer invisibles parts d'un regulador de crescendo, s'usa el mètode de dibuixar un rectangle blanc a sobre de la respectiva del regulador, tapant-la. El rectangle es defineix com codi de postscript dins d'un element de marcatge de text.

L'ordre de marcatge with-dimensions indica al LilyPond que consideri sols l'extrem inferior del rectangle quan realitzi l'espaiat d'aquest rectangle frente al regulador. La propietat staff-padding evita que el rectangle càpiga entre el regulador i el pentagrama.

Assegureu-vos que el regulador està a una capa més baixa que l'element de marcatge de text per traçar el rectangle a sobre del regulador.

```
\relative c' {
  <<
  {
    \dynamicUp
    r2 r16 c'8.\pp r4
  }
  \\\
  {
    \override DynamicLineSpanner.layer = #0
    des,2\mf\< ~
    \override TextScript.layer = #2
    \once\override TextScript.staff-padding = #6
    \once\override TextScript.vertical-skylines = #'()
    des16_\markup \with-dimensions #'(2 . 7) #'(0 . 0)
      \with-color #white
      \filled-box #'(2 . 7) #'(0 . 2) #0
    r8. des4 ~ des16->\sff r8.
  }
  >>
}
```



## Caesura (“railtracks”) with fermata

A caesura is sometimes denoted by a double “railtracks” breath mark with a fermata sign positioned above. This snippet shows an optically pleasing combination of railtracks and fermata.

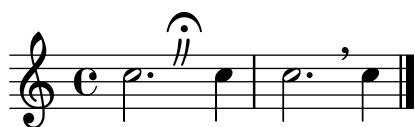
```
\relative c' {
  c2.
  % construct the symbol
  \override BreathingSign.text = \markup {
    \override #'(direction . 1)
```



```

\override #'(baseline-skip . 1.8)
\dir-column {
  \translate #'(0.155 . 0)
  \center-align \musicglyph "scripts.caesura.curved"
  \center-align \musicglyph "scripts.ufermata"
}
}
\breathes c4
% set the breath mark back to normal
\revert BreathingSign.text
c2. \breathes c4
\bar " | ."
}

```



## Centrar text a sota d'un regulador

Aquest exemple proporciona una funció per escriure un regulador amb text a sota, com “molto” o “poco”. El text afegit canvia la direcció d'acord amb la del regulador. L'objecte hairpin està alineat amb DynamicText.

L'exemple il·lustra també com modificar la manera en la qual s'imprimeix normalment un objecte, utilitzat codi de l'Scheme.

```

hairpinWithCenteredText =
#(define-music-function (text) (markup?)
  #{
    \once \override Voice.Hairpin.after-line-breaking =
      #(lambda (grob)
        (let* ((stencil (ly:hairpin::print grob))
              (par-y (ly:grob-parent grob Y))
              (dir (ly:grob-property par-y 'direction))
              (staff-line-thickness
                (ly:output-def-lookup (ly:grob-layout grob)
                                      'line-thickness)))
          (new-stencil
            (ly:stencil-aligned-to
              (ly:stencil-combine-at-edge
                (ly:stencil-aligned-to stencil X CENTER)
                Y dir
                (ly:stencil-aligned-to
                  (grob-interpret-markup
                    grob
                    (make-fontsize-markup
                      (magnification->font-size
                        (+ (ly:staff-symbol-staff-space grob)
                          (/ staff-line-thickness 2))))
                    text))
                  X CENTER))
                X LEFT))
            (staff-space (ly:output-def-lookup

```

```

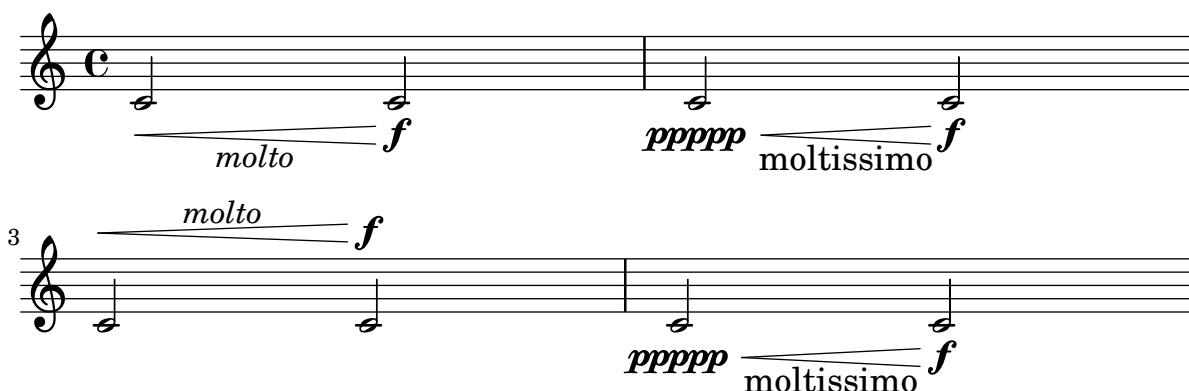
      (ly:grob-layout grob) 'staff-space))
    (par-x (ly:grob-parent grob X))
    (dyn-text (grob::has-interface par-x
              'dynamic-text-interface))

    (dyn-text-stencil-x-length
      (if dyn-text
        (interval-length
          (ly:stencil-extent
            (ly:grob-property par-x 'stencil) X))
        0))
    (x-shift
      (if dyn-text (- (+ staff-space dyn-text-stencil-x-length)
                      (* 0.5 staff-line-thickness))
        0)))
    (ly:grob-set-property! grob 'Y-offset 0)
    (ly:grob-set-property! grob
      'stencil (ly:stencil-translate-axis
                new-stencil
                x-shift X))))
#})

hairpinMolto = \hairpinWithCenteredText \markup { \italic molto }
hairpinMore = \hairpinWithCenteredText \markup { \larger moltissimo }

\relative c' {
  \hairpinMolto c2\< c\f
  \hairpinMore c2\ppppp\< c\f
  \break
  \hairpinMolto c2^\< c\f
  \hairpinMore c2\ppppp\< c\f
}

```



## Canviar el text i els estils d'objecte d'extensió per a les indicacions dinàmiques textuals

Es pot modificar el text empleat per als crescendos i decrescendos modificant les propietats de context `crescendoText` i `decrescendoText`.

L'estil de la línia d'extensió es pot canviar modificant la propietat `'style` de `DynamicTextSpanner`. El valor predeterminat és `'dashed-line` (línia discontinua), i entre d'altres valors possibles es troben `'line` (línia), `'dotted-line` (línia de punts) i `'none` (res):

```
\relative c' {
  \set crescendoText = \markup { \italic { cresc. poco } }
  \set crescendoSpanner = #'text
  \override DynamicTextSpanner.style = #'dotted-line
  a2\< a
  a2 a
  a2 a
  a2 a\mf
}
```



## Modificar l'aspecte continu d'una lligadura d'expressió a puntejat o intermitent

Es pot canviar l'aspecte de les lligadures d'expressió de contínues a puntejades o intermitents.

```
\relative c' {
  c4( d e c)
  \slurDotted
  c4( d e c)
  \slurSolid
  c4( d e c)
  \slurDashed
  c4( d e c)
  \slurSolid
  c4( d e c)
}
```



## Canviar el símbol de la marca de respiració

El glif de la marca de respiració es pot ajustar sobreescrivint la propietat de text de l'objecte de presentació `BreathingSign`, amb qualsevol altre text de marcatge.

```
\relative c' {
  c2
  \override BreathingSign.text =
    \markup { \musicglyph "scripts.rvarcomma" }
  \breathe
  d2
}
```



## Modificar el nombre de puntets d'una nota

La quantitat de puntets d'una nota es pot modificar independentment dels puntets que s'escriuen després d'una nota.

```
\relative c' {
  c4.. a16 r2 |
  \override Dots.dot-count = 4
  c4.. a16 r2 |
  \override Dots.dot-count = 0
  c4.. a16 r2 |
  \revert Dots.dot-count
  c4.. a16 r2 |
}
```



## Combinar indicacions dinàmiques amb marcatges textuais

Certes indicacions dinàmiques poden portar textos (com “più forte” o “piano subito”). Es poden produir usant un bloc `\markup`.

```
piuF = \markup { \italic più \dynamic f }
```

```
\markup \with-true-dimensions % work around a cropping issue
\score {
  \relative c'' {
    c2\f c-\piuF
  }
}
```



## Combining dynamics with markup texts (2)

Some dynamics may involve text indications (such as “più *f*” or “*p* subito”). These can be produced using the `make-dynamic-script` Scheme function; the resulting object behaves like a `DynamicText` grob.

See also “Combining dynamics with markup texts”.

```
piuF = #(make-dynamic-script
  #{ \markup { \normal-text \italic più \dynamic f } #})

\score {
  \relative c'' {
    c2\f c\piuF
  }
}
```



## Glissando contemporani

Es pot gravar un glissando contemporani sense nota final utilitzant una nota oculta i temporització de cadenza.

```
\relative c' ' {
  \time 3/4
  \override Glissando.style = #'zigzag
  c4 c
  \cadenzaOn
  c4\glissando
  \hideNotes
  c,,4
  \unHideNotes
  \cadenzaOff
  \bar "|"
}
```



## Controlar la visibilitat dels objectes d'extensió després d'un salt de línia

La visibilitat dels objectes d'extensió que acaben a la primera nota després d'un salt de línia està controlada per la funció de crida de `after-line-breaking` `ly:spanner::kill-zero-spanned-time`.

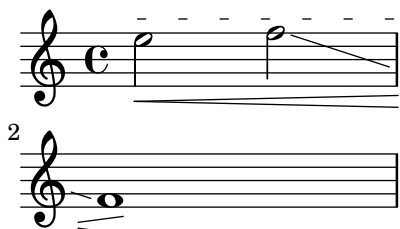
Per als objectes com els glissandos i els reguladors, el comportament predeterminat és ocultar l'objecte d'extensió després del salt; la inhabilitació de la funció de `callback` fa que l'objecte d'extensió trencat per l'esquerra pot mostrar-se.

De forma inversa, els objectes d'extensió que són visibles normalment, com els objectes d'extensió de text, es poden ocultar habilitant la funció de `callback`.

```
\paper {
  line-width = 50\mm
}

\relative c' ' {
  \override Hairpin.to-barline = ##f
  \override Glissando.breakable = ##t
  % show hairpin
  \override Hairpin.after-line-breaking = ##t
  % hide text span
  \override TextSpanner.after-line-breaking =
    #ly:spanner::kill-zero-spanned-time
  e2\<\startTextSpan
  % show glissando
```

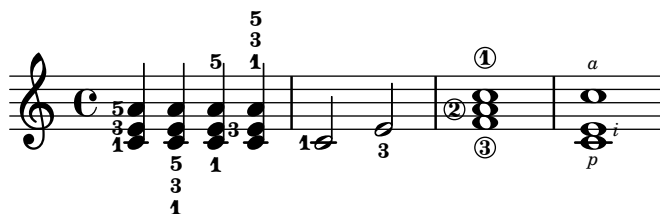
```
\override Glissando.after-line-breaking = ##t
f2\glissando
\break
f,1\!\stopTextSpan
}
```



## Controlar la col·locació de les digitacions d'acords

Es pot controlar amb precisió la col·locació dels números de digitació. Perquè es tingui en compte l'orientació de les digitacions, es pot utilitzar una construcció d'acord <> tot i que siguin una sola nota.

```
\relative c' {
  \set fingeringOrientations = #'(left)
  <c-1 e-3 a-5>4
  \set fingeringOrientations = #'(down)
  <c-1 e-3 a-5>4
  \set fingeringOrientations = #'(down right up)
  <c-1 e-3 a-5>4
  \set fingeringOrientations = #'(up)
  <c-1 e-3 a-5>4
  \set fingeringOrientations = #'(left)
  <c-1>2
  \set fingeringOrientations = #'(down)
  <e-3>2
  \set stringNumberOrientations = #'(up left down)
  <f\3 a\2 c\1>1
  \set strokeFingerOrientations = #'(down right up)
  <c\rightHandFinger 1 e\rightHandFinger 2 c'\rightHandFinger 4 >
}
```



## Controlar l'ordenació vertical de les inscripcions

L'orden vertical que ocupen les inscripcions gràfiques està controlat amb la propietat 'script-priority. Quant més baix és aquest número, més a prop de la nota es col·locarà. En aquest exemple, el TextScript (el sostingut) té primer la prioritat més baixa, per la qual cosa se situa en la posició més baixa al primer exemple. En el segon, el semitrí (el Script) és el que la té més baixa, per la qual cosa se situa en la part interior. Quan dos objectes tenen la mateixa prioritat, l'ordre en el qual s'introdueixen determina quin serà el que apareix en primer lloc.

```
\relative c' '' {
```

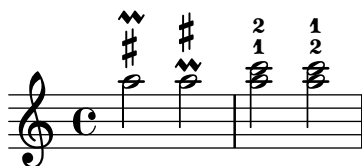
```

\once \override TextScript.script-priority = -100
a2^\prall^\markup { \sharp }

\once \override Script.script-priority = -100
a2^\prall^\markup { \sharp }

\set fingeringOrientations = #'(up)
<c-2 a-1>2
<a-1 c\tweak script-priority -100 -2>2
}

```



## Creating “real” parenthesized dynamics

Although the easiest way to add parentheses to a dynamic mark is to use a `\markup` block, this method has a downside: the created objects behave like text markups and not like dynamics.

However, it is possible to create a similar object using the equivalent Scheme code (as described in the Notation Reference), combined with the `make-dynamic-script` function. This way, the markup is regarded as a dynamic and therefore remains compatible with commands such as `\dynamicUp` or `\dynamicDown`.

```

paren =
#(define-event-function (dyn) (ly:event?)
  (make-dynamic-script
    #{ \markup \concat {
      \normal-text \italic \fontsize #2 (
        \pad-x #0.2 #(ly:music-property dyn 'text)
        \normal-text \italic \fontsize #2 )
    }
    #}))

\relative c' ' {
  c4\paren\f c c \dynamicUp c\paren\p
}

```



## Crear un grupet d’anticipació

La creació d’un grupet circular d’anticipació entre dues notes, on la nota inferior del grupet utilitza una alteració, requereix diverses sobreescritures de propietats. La propietat `outside-staff-priority` es pot establir al valor `#f`, atès que en aquest cas tindria prioritat sobre la propietat `avoid-slur property`. Canviant les fraccions `2/3` i `1/3` pot ajustar-se la posició horitzontal.

```

\relative c' ' {

```

```

\after 2*2/3 \turn c2( d4) r |
\after 4 \turn c4.( d8)
\after 4
{
  \once \set suggestAccidentals = ##t
  \once \override AccidentalSuggestion.outside-staff-priority = ##f
  \once \override AccidentalSuggestion.avoid-slur = #'inside
  \once \override AccidentalSuggestion.font-size = -3
  \once \override AccidentalSuggestion.script-priority = -1
  \once \hideNotes
  cis8\turn \noBeam
}
d4.( e8)
}

```



## Crear arpegis entre notes de veus diferents

Es pot dibuixar un símbol d'arpegi entre notes de diferents veus que estan sobre el mateix pentagrama si el gravador `Span_arpeggio_engraver` es trasllada al context de `Staff`:

```

\new Staff \with {
  \consists "Span_arpeggio_engraver"
}
\relative c' {
  \set Staff.connectArpeggios = ##t
  <<
    { <e' g>4\arpeggio <d f> <d f>2 }
    \\
    { <d, f>2\arpeggio <g b>2 }
  >>
}

```



## Crear arpegis que es creuen entre pentagrames dins d'un sistema de piano

Dins d'un `PianoStaff`, és possible fer que un arpegi creui entre els pentagrames ajustant la propietat `PianoStaff.connectArpeggios`.

```

\new PianoStaff \relative c'' <<
  \set PianoStaff.connectArpeggios = ##t
  \new Staff {
    <c e g c>4\arpeggio
    <g c e g>4\arpeggio
    <e g c e>4\arpeggio
    <c e g c>4\arpeggio
  }

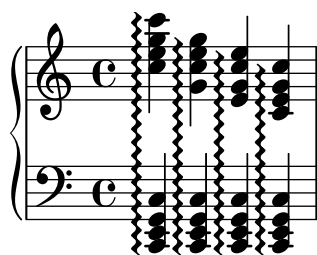
```



```

}
\new Staff {
  \clef bass
  \repeat unfold 4 {
    <c,, e g c>4\arpeggio
  }
}
>>

```



## Creació d'arpegis que es creuen entre pentagrames dins d'altres contextos

Es poden crear arpegis que es creuen entre pentagrames dins de contextos diferents a `GrandStaff`, `PianoStaff` i `Span_arpeggio_engraver` en el context de `Score`.

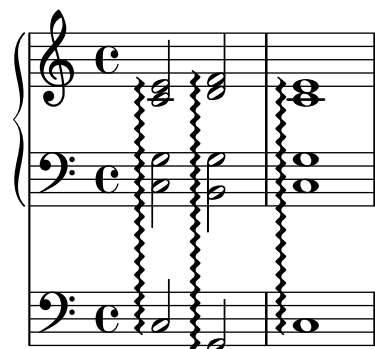
```

<<
\new PianoStaff <<
  \new Voice \relative c' {
    <c e>2\arpeggio <d f>2\arpeggio
    <c e>1\arpeggio
  }
  \new Voice \relative c {
    \clef bass
    <c g'>2\arpeggio <b g'>2\arpeggio
    <c g'>1\arpeggio
  }
>>

\new Staff \relative c {
  \set Score.connectArpeggios = ##t
  \clef bass
  c2\arpeggio g\arpeggio
  c1\arpeggio
}
>>

\layout {
  \context {
    \Score
    \consists "Span_arpeggio_engraver"
  }
}

```



## Crear digitacions de dues xifres

És possible crear digitacions amb el nombre més gran de 5.

```
\relative c' {
  c1-10
  c1-50
  c1-36
  c1-29
}
```



## Fer lligadures entre veus diferents

En determinades situacions cal crear lligadures d'expressió entre notes que estan a veus diferents.

La solució és afegir notes invisible a una de les veus utilitzant `\hideNotes`.

Aquest exemple és el compàs 235 de la Chacona de la segona Partita per a violí sol, BWV 1004, de Bach.

```
\relative c' {
  <<
  {
    d16( a') s a s a[ s a] s a[ s a]
  }
  \\\
  {
    \slurUp
    bes,16[ s e](
    \hideNotes a)
    \unHideNotes f[(
    \hideNotes a)
    \unHideNotes fis](
    \hideNotes a)
    \unHideNotes g[(
    \hideNotes a)
    \unHideNotes gis](
    \hideNotes a)
  }
  >>
}
```



## Crear elements de extensió textuals

Les ordres `\startTextSpan` i `\stopTextSpan` permeten la creació d'elements d'extensió textuals tan fàcilment com indicacions de pedal o octavacions. Sobreescrivim certes propietats de l'object `TextSpanner` per modificar la seva sortida.

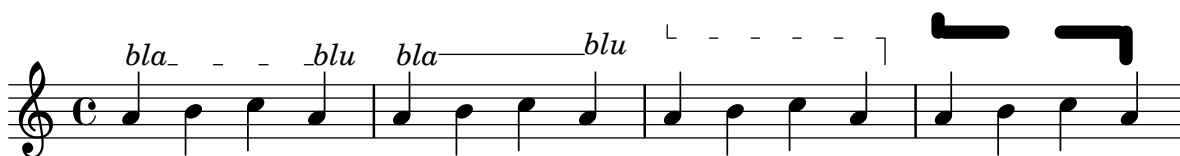
```
\paper { ragged-right = ##f }

\relative c' {
  \override TextSpanner.bound-details.left.text = #"bla"
  \override TextSpanner.bound-details.right.text = #"blu"
  a4 \startTextSpan
  b4 c
  a4 \stopTextSpan

  \override TextSpanner.style = #'line
  \once \override TextSpanner.bound-details.left.stencil-align-dir-y = #CENTER
  a4 \startTextSpan
  b4 c
  a4 \stopTextSpan

  \override TextSpanner.style = #'dashed-line
  \override TextSpanner.bound-details.left.text =
    \markup { \draw-line #'(0 . 1) }
  \override TextSpanner.bound-details.right.text =
    \markup { \draw-line #'(0 . -2) }
  \once \override TextSpanner.bound-details.right.padding = #-2
  a4 \startTextSpan
  b4 c
  a4 \stopTextSpan

  \override TextSpanner.dash-period = #10
  \override TextSpanner.dash-fraction = #0.5
  \override TextSpanner.thickness = #10
  a4 \startTextSpan
  b4 c
  a4 \stopTextSpan
}
```



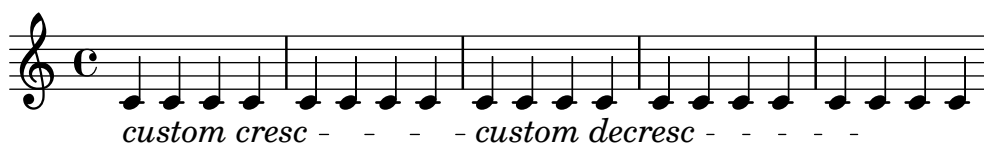
## Dynamics spanner with custom text

Postfix functions for custom crescendo text spanners. The spanners should start on the first note of the measure. One has to use `-\mycresc`, otherwise the spanner start will rather be assigned to the next note.

```
% Two functions for (de)crescendo spanners where you can explicitly
% give the spanner text.
```

```
mycresc =
#(define-music-function (mymarkup) (markup?)
  (make-music 'CrescendoEvent
    'span-direction START
    'span-type 'text
    'span-text mymarkup))
mydecresc =
#(define-music-function (mymarkup) (markup?)
  (make-music 'DecrescendoEvent
    'span-direction START
    'span-type 'text
    'span-text mymarkup))
```

```
\relative c' {
  c4-\mycresc "custom cresc" c4 c4 c4 |
  c4 c4 c4 c4 |
  c4-\mydecresc "custom decresc" c4 c4 c4 |
  c4 c4 c4 c4 |
  c4 c4\! c4 c4
}
```



## Glissando per sota d'una objecte gràfic

Els objectes gràfics de columna de nota (els grobs `NoteColumn`) poder ser sobrepassats pels glissandos.

```
\relative c' {
  a2 \glissando
  \once \override NoteColumn.glissando-skip = ##t
  f''4 d,
}
```



## Reguladors amb diferents estils de línia

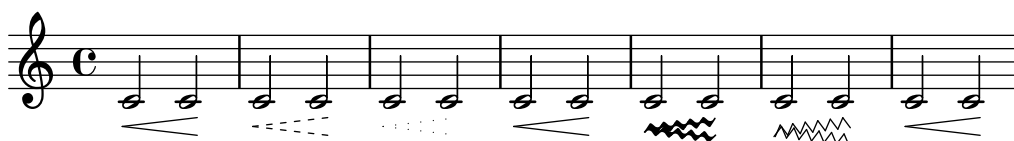
Els reguladors poden imprimir-se en qualsevol dels estils de line-interface: discontinu, puntejat, línia, tri o zig-zag.

```
\relative c' {
  c2\< c\!
  \override Hairpin.style = #'dashed-line
  c2\< c\!
  \override Hairpin.style = #'dotted-line
  c2\< c\!
```

```

\override Hairpin.style = #'line
c2\< c\!
\override Hairpin.style = #'trill
c2\< c\!
\override Hairpin.style = #'zigzag
c2\< c\!
\revert Hairpin.style
c2\< c\!
}

```



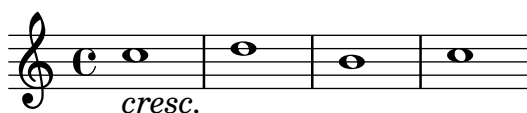
## Ocultar la línia d'extensió de les expressions textuais de dinàmica

Els canvis de dinàmica amb estil de text (com *cresc.* i *dim.*) es graven amb una línia intermitent que mostra el seu abast. Aquesta línia es pot suprimir de la manera següent:

```

\relative c' {
  \override DynamicTextSpanner.style = #'none
  \crescTextCresc
  c1\< | d | b | c\!
}

```



## Horizontally aligning custom dynamics like “più f”

Some dynamic expressions involve additional text, like “sempre **pp**”. Since dynamics are usually centered under the note, the `\pp` would be displayed way after the note it applies to.

To correctly align the “sempre **pp**” horizontally so that it is aligned as if it were only the `\pp`, there are several approaches:

- Simply use `\once \override DynamicText.X-offset = #-9.2` before the note with the dynamics to manually shift it to the correct position. Drawback: This has to be done manually each time you use that dynamic markup...
- Add some padding (`#:hspace 7.1`) into the definition of your custom dynamic mark so that after LilyPond center-aligns it, it is already correctly aligned. Drawback: The padding really takes up that space and does not allow any other markup or dynamics to be shown in that position.
- Shift the dynamic script `\once \override ... .X-offset = ....` Drawback: `\once \override` is needed for every invocation!
- Set the dimensions of the additional text to 0 (using `#:with-dimensions '(0 . 0) '(0 . 0)`). Drawback: For LilyPond, “sempre” has no extent now. This means it might put other stuff there, causing collisions (which are not detected by LilyPond’s collision detection algorithm!). There also seems to be some spacing, so it is not exactly the same alignment as without the additional text.
- Add an explicit shift directly inside the scheme function for the dynamic script.

- Set an explicit alignment inside the dynamic script. By default, this won't have any effect, only if one sets `X-offset`! Drawback: One needs to set `DynamicText.X-offset`, which will apply to all dynamic texts! Also, it is aligned at the right edge of the additional text, not at the center of `\pp`.

```
\paper {
  ragged-right = ##f
  indent = 5\cm
}
```

```
% Solution 1: Using a simple markup with a particular halign value
% Drawback: It's a markup, not a dynamic command, so \dynamicDown
%           etc. will have no effect
semppMarkup = \markup { \halign #1.4 \italic "sempre" \dynamic "pp" }
```

```
% Solution 2: Using a dynamic script & shifting with
%           \once \override ...X-offset = ..
% Drawback: \once \override needed for every invocation
semppK =
#(make-dynamic-script
  (markup #:line
    (#:normal-text
      #:italic "sempre"
      #:dynamic "pp"))))
```

```
% Solution 3: Padding the dynamic script so the center-alignment
%           puts it at the correct position
% Drawback: the padding really reserves the space, nothing else can be there
semppT =
#(make-dynamic-script
  (markup #:line
    (#:normal-text
      #:italic "sempre"
      #:dynamic "pp"
      #:hspace 7.1))))
```

```
% Solution 4: Dynamic, setting the dimensions of the additional text to 0
% Drawback: To lilypond "sempre" has no extent, so it might put
%           other stuff there => collisions
% Drawback: Also, there seems to be some spacing, so it's not exactly the
%           same alignment as without the additional text
semppM =
#(make-dynamic-script
  (markup #:line
    (#:with-dimensions '(0 . 0) '(0 . 0)
      #:right-align
      #:normal-text
      #:italic "sempre"
      #:dynamic "pp"))))
```

```
% Solution 5: Dynamic with explicit shifting inside the scheme function
semppG =
```

```

#(make-dynamic-script
  (markup #:hspace 0
    #:translate '(-18.85 . 0)
    #:line (#:normal-text
      #:italic "sempre"
      #:dynamic "pp")))

% Solution 6: Dynamic with explicit alignment. This has only effect
%           if one sets X-offset!
% Drawback: One needs to set DynamicText.X-offset!
% Drawback: Aligned at the right edge of the additional text,
%           not at the center of pp
semppMII =
#(make-dynamic-script
  (markup #:line (#:right-align
    #:normal-text
    #:italic "sempre"
    #:dynamic "pp")))

\new StaffGroup <<
  \new Staff \with { instrumentName = "standard" }
    \relative c'' {
      \key es \major
      c4\pp c\p c c | c\ff c c\pp c
    }
  \new Staff \with { instrumentName = "normal markup" }
    \relative c'' {
      \key es \major
      c4-\semppMarkup c\p c c | c\ff c c-\semppMarkup c
    }
  \new Staff \with { instrumentName = "explicit shifting" }
    \relative c'' {
      \key es \major
      \once \override DynamicText.X-offset = #-9.2
      c4\semppK c\p c c
      c4\ff c
      \once \override DynamicText.X-offset = #-9.2
      c4\semppK c
    }
  \new Staff \with { instrumentName = "right padding" }
    \relative c'' {
      \key es \major
      c4\semppT c\p c c | c\ff c c\semppT c
    }
  \new Staff \with { instrumentName = "set dimension to zero" }
    \relative c'' {
      \key es \major
      c4\semppM c\p c c | c\ff c c\semppM c
    }
  \new Staff \with { instrumentName = "shift inside dynamics" }
    \relative c'' {
      \key es \major

```

```

c4\semppG c\p c c | c\ff c c\semppG c
}
\new Staff \with { instrumentName = "alignment inside dynamics" }
\relative c'' {
  \key es \major
  \override DynamicText.X-offset = #-1
  c4\semppMII c\p c c | c\ff c c\semppMII c
}
>>

\layout { \override Staff.InstrumentName.self-alignment-X = #LEFT }

```

standard	
normal markup	
explicit shifting	
right padding	
set dimension to zero	
shift inside dynamics	
alignment inside dynamics	

## Inserir una cesura

Les marques de cesura es poden crear sobreescrivint la propietat 'text de l'objecte BreathingSign. També està disponible una marca de cesura corba.

```

\relative c'' {
  \override BreathingSign.text = \markup {
    \musicglyph "scripts.caesura.straight"
  }
  c8 e4. \breathe g8. e16 c4

  \override BreathingSign.text = \markup {
    \musicglyph "scripts.caesura.curved"
  }
  g8 e'4. \breathe g8. e16 c4
}

```



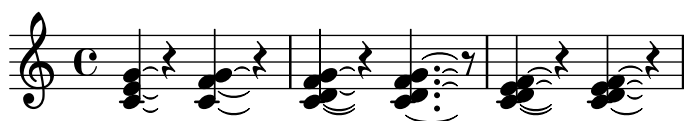


## Lligaduras “Laissez vibrer”

Les lligadures “Laissez vibrer” (deixar vibrar) tenen una mida fixa. Es pot ajustar el seu format usant 'tie-configuration.

```
\relative c' {
  <c e g>4\laissezVibrer r <c f g>\laissezVibrer r
  <c d f g>4\laissezVibrer r <c d f g>4.\laissezVibrer r8

  <c d e f>4\laissezVibrer r
  \override LaissezVibrerTieColumn.tie-configuration
    = #`((-7 . ,DOWN)
        (-5 . ,DOWN)
        (-3 . ,UP)
        (-1 . ,UP))
  <c d e f>4\laissezVibrer r
}
```



## Puntes de fletxa per a les línies

Es poden aplicar puntes de fletxa als elements d'extensió de text i de línia (com el Glissando).

```
\relative c' {
  \override TextSpanner.bound-padding = #1.0
  \override TextSpanner.style = #'line
  \override TextSpanner.bound-details.right.arrow = ##t
  \override TextSpanner.bound-details.left.text = #"fof"
  \override TextSpanner.bound-details.right.text = #"gag"
  \override TextSpanner.bound-details.right.padding = #0.6

  \override TextSpanner.bound-details.right.stencil-align-dir-y = #CENTER
  \override TextSpanner.bound-details.left.stencil-align-dir-y = #CENTER

  \override Glissando.bound-details.right.arrow = ##t
  \override Glissando.arrow-length = #0.5
  \override Glissando.arrow-width = #0.25

  a8\startTextSpan gis a4 b\glissando b,
  g'4 c\stopTextSpan c2
}
```



## Fer lligadures d'expressió amb estructura complexa de discontinuïtat

Les lligadures d'expressió es poden construir amb patrons de discontinuïtat complexos mitjançant la definició de la propietat `dash-definition`. `dash-definition` és una llista de paràmetres que defineixen el comportament de discontinuïtat d'un segment de la lligadura d'expressió.

La lligadura es defineix en termes del paràmetre de bezier `t` el rang del qual va de 0 a l'esquerra de la lligadura fins a 1 a l'extrem dret de la lligadura. cada element de discontinuïtat és una llista (`t-inici t-final fracció-discontinuitat període-discontinuitat`). La regió de la lligadura des de `t-inici` fins a `t-final` tindrà una fracció `fracció-discontinuitat` de cada període-discontinuitat de color negre. `període-discontinuitat` es defineix en termes d'espais de pentagrama. `fracció-discontinuitat` s'estableix al valor d'1 per a una lligadura contínua.

```
\relative c' {
  \once \override
    Slur.dash-definition = #'(( 0 0.3 0.1 0.75)
                               (0.3 0.6 1 1 )
                               (0.65 1.0 0.4 0.75))

  c4( d e f)
  \once \override
    Slur.dash-definition = #'((0 0.25 1 1 )
                              (0.3 0.7 0.4 0.75)
                              (0.75 1.0 1 1 ))

  c4( d e f)
}
```



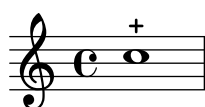
## Modificació dels valors predeterminats per a la notació abreviada de les articulacions

Les abreviatures es troben definides dins del fitxer `ly/script-init.ly`, on les variables `dashHat`, `dashPlus`, `dashDash`, `dashBar`, `dashLarger`, `dashDot` i `dashUnderscore` reben valors predeterminats. Es poden modificar aquests valors predeterminats per a les abreviatures. Per exemple, per associar l'abreviatura `+` (`dashPlus`) amb el símbol de semitrí en cmptes del símbol predeterminat `+`, assigneu el valor `trill` a la variable `dashPlus`:

```
\relative c' { c1-+ }
```

```
dashPlus = \trill
```

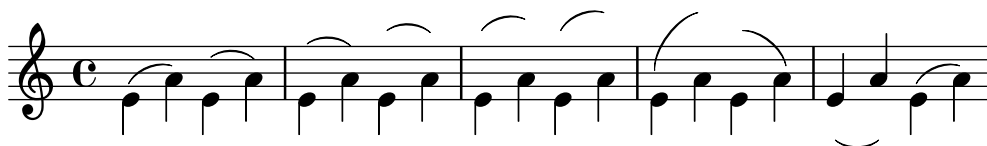
```
\relative c' { c1-+ }
```



## Desplaçament de les lligadures d'expressió verticalment

Es pot ajustar la posició vertical d'una lligadura d'expressió utilitzant la propietat `positions` de l'objecte `Slur`. La propietat de dos paràmetres, on el primer es refereix a l'extrem esquerre de la lligadura i el segon al dret. Els valors dels paràmetres no s'utilitzen per part del LilyPond per produir un desplaçament exacte de la lligadura: més bé selecciona la col·locació que té un aspecte millor, tenint en compte els valors dels paràmetres. Els valors positius desplacen la lligadura cap amunt, i són adequats a notes que tenen les pliques cap avall. Els valors negatius desplacen les lligadures baixes encara més cap avall.

```
\relative c' {
  \stemDown
  e4( a)
  \override Slur.positions = #'(1 . 1)
  e4( a)
  \override Slur.positions = #'(2 . 2)
  e4( a)
  \override Slur.positions = #'(3 . 3)
  e4( a)
  \override Slur.positions = #'(4 . 4)
  e4( a)
  \override Slur.positions = #'(5 . 5)
  e4( a)
  \override Slur.positions = #'(0 . 5)
  e4( a)
  \override Slur.positions = #'(5 . 0)
  e4( a)
  \stemUp
  \override Slur.positions = #'(-5 . -5)
  e4( a)
  \stemDown
  \revert Slur.positions
  e4( a)
}
```



## Moving the ends of hairpins

The ends of hairpins may be offset by setting the `shorten-pair` property of the `Hairpin` object. Positive values move endpoints to the right, negative to the left. Unlike the `minimum-length` property, this property only affects the appearance of the hairpin; it does not adjust horizontal spacing (including the position of bounding dynamics). This method is thus suitable for fine-tuning a hairpin within its allotted space.

```
{
  c'1~\<
  c'2~ c'\!
  \once \override Hairpin.shorten-pair = #'(2 . 2)
  c'1~\<
  c'2~ c'\!
  \once \override Hairpin.shorten-pair = #'(-2 . -2)
}
```

```

c'1~\<
c'2~ c'\!
c'1~\p-\tweak shorten-pair #'(2 . 0)\<
c'2~ c'\ffff
}

```



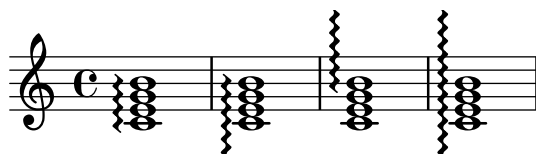
## Posicionar símbols d'arpegi

Si cal fer més llargs o més curts un símbol d'arpegi, es pot modificar independentment els extrems superior i inferior.

```

\relative c' {
  <c e g b>1\arpeggio
  \once \override Arpeggio.positions = #'(-5 . 0)
  <c e g b>1\arpeggio
  \once \override Arpeggio.positions = #'(0 . 5)
  <c e g b>1\arpeggio
  \once \override Arpeggio.positions = #'(-5 . 5)
  <c e g b>1\arpeggio
}

```



## Situar els elements de marcatge de text por dins de les lligadures

Els elements de marcatge de text han de tenir la propietat `outside-staff-priority` establerta al valor fals perquè s'imprimeixin per dins de les lligadures d'expressió.

```

\relative c' {
  \override TextScript.avoid-slur = #'inside
  \override TextScript.outside-staff-priority = ##f
  c2(~\markup { \halign #-10 \natural } d4.) c8
}

```



## Impressió de reguladors en diversos estils

Els reguladors es poden crear en una àmplia varietat d'estils.

```

\relative c' {
  \override Hairpin.stencil = #flared-hairpin
  a4\< a a a\f
  a4\p\< a a a\ff
}

```

```

a4\s fz\< a a a\!
\override Hairpin.stencil = #constante-hairpin
a4\< a a a\!
a4\p\< a a a\ff
a4\s fz\< a a a\!
\override Hairpin.stencil = #flared-hairpin
a4\> a a a\!
a4\p\> a a a\ff
a4\s fz\> a a a\!
\override Hairpin.stencil = #constante-hairpin
a4\> a a a\!
a4\p\> a a a\ff
a4\s fz\> a a a\!
}

```



### Impressió de reguladors utilitzant la notació «al niente»

Es poden imprimir reguladores amb un cercle en la punta (notació «al niente») establint la propietat `circled-tip` de l'objecte `Hairpin` al valor `#t`.

```

\relative c' {
  \override Hairpin.circled-tip = ##t
  c2\< c\!
  c4\> c\< c2\!
}

```



### Impressió d'indicacions de metrònom i lletres d'assaig a sota del pentagrama

De forma predeterminada, les indicacions de metrònom i les lletres d'assaig s'imprimeixen a sobre del pentagrama. Per col·locar-les a sota del pentagrama, simplement ajustem adequadament la propietat `direction` de `MetronomeMark` o de `RehearsalMark`.

```

\layout {
  ragged-right = ##f
}

{
  % Metronome marks below the staff
  \override Score.MetronomeMark.direction = #DOWN
  \tempo 8. = 120
}

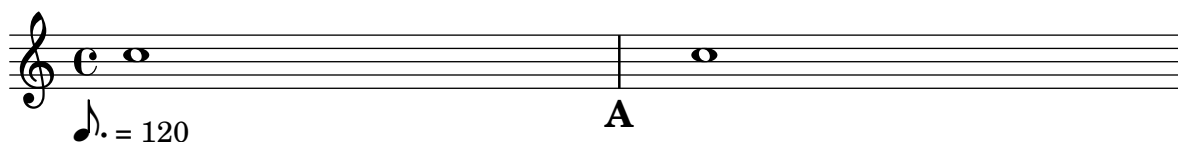
```

```

c''1

% Rehearsal marks below the staff
\override Score.RehearsalMark.direction = #DOWN
\mark \default
c''1
}

```



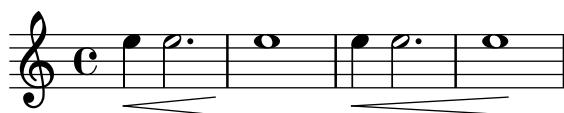
## Establir el comportament dels reguladors a les barres de compàs

Si la nota que acaba un regulador cau sobre la primera part d'un compàs, el regulador s'atura en la línia divisòria immediatament precedent. Es pot controlar aquest comportament sobreescrivint la propietat 'to-barline.

```

\relative c'' {
  e4\< e2.
  e1\!
  \override Hairpin.to-barline = ##f
  e4\< e2.
  e1\!
}

```



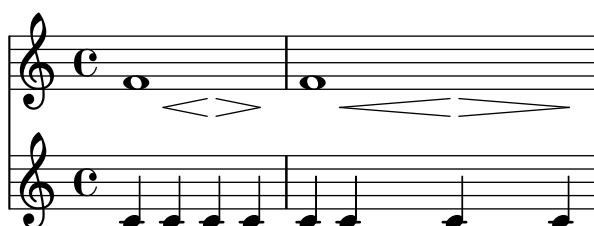
## Ajustament de la longitud mínima dels reguladors

Si els reguladors són massa curts, es poden allargar modificant la propietat minimum-length de l'objecte Hairpin.

```

<<
{
  \after 4 \< \after 2 \> \after 2. \! f'1
  \override Hairpin.minimum-length = 8
  \after 4 \< \after 2 \> \after 2. \! f'1
}
{
  \repeat unfold 8 c'4
}
>>

```



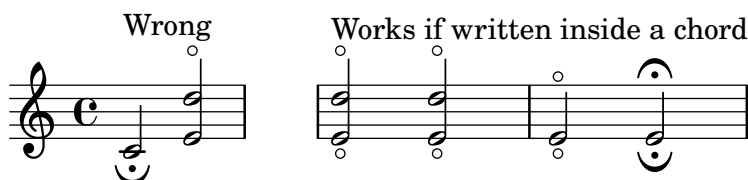
## Impressió de la mateixa articulació a sobre i a sota de la mateixa nota o acord

De forma predeterminada, el LilyPond no permet posar la mateixa articulació (per exemple un accent, un calderó, un cercle d'harmònic, etc.) a sobre i a sota de la nota. Per exemple, `c4.\fermata^\fermata` imprimeix sols el calderó inferior. El calderó superior senzillament s'ignora. No obstant, es poden adjuntar inscripcions (de igual forma que les digitacions) dins d'un acord, soca que significa que és possible tenir tantes articulacions com es vulgui. Aquest enfocament té l'avantatge que ignora la plica i posiciona l'articulació de forma relativa al cap de la nota. Pot veure's això en el cas dels flageolets (indicacions d'harmònic)) que apareixen en el fragment de codi. Per recrear el comportament de les inscripcions fora de l'acord, es requereix `'add-stem-support`. D'aquesta manera la solució consisteix en escriure la nota com un acord i afegir les articulacions dins dels parèntesis en angle `<...>`. La direcció sempre serà cap a dalt, però podem retocar això per mitjà d'una ordre `\tweak`: `<c-\tweak direcció #DOWN-\fermata^\fermata>`

```
\relative c' {
  <>^\text{"Wrong"}
  c2_\fermata^\fermata % The second fermata is ignored!
  <e d'>2^\flageolet_\flageolet

  \stopStaff s1 \startStaff

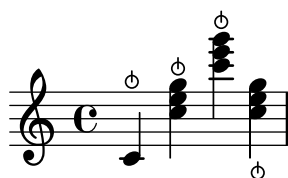
  <>^\text{"Works if written inside a chord"}
  <e_\flageolet d'^\flageolet>2
  <e_\flageolet d'^\flageolet>2
  <e_\flageolet^\flageolet>2
  <e_\fermata^\fermata>2
}
```



## Snap pizzicato (“Bartok” pizzicato)

A snap pizzicato (also known as “Bartok pizzicato”) is a “strong pizzicato where the string is plucked vertically by snapping and rebounds off the fingerboard of the instrument” (Wikipedia). It is denoted by a circle with a vertical line going from the center upwards outside the circle.

```
\relative c' {
  c4\snappizzicato
  <c' e g>4\snappizzicato
  <c' e g>4^\snappizzicato
  <c, e g>4_\snappizzicato
}
```

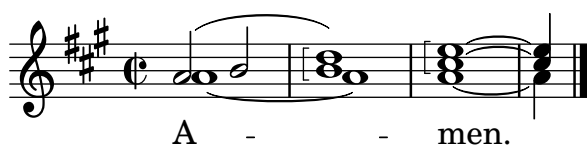


## Using `\arpeggioBracket` to make divisi more visible

The `\arpeggioBracket` command can be used to indicate the division of voices where there are no stems to provide the information. This is often seen in choral music.

```
\include "english.ly"
```

```
\score {
  \relative c'' {
    \key a \major
    \time 2/2
    <<
      \new Voice = "upper"
      <<
        { \voiceOne \arpeggioBracket
          a2( b2
          <b d>1\arpeggio)
          <cs e>\arpeggio ~
          <cs e>4
        }
        \addlyrics { \lyricmode { A -- men. } }
      >>
      \new Voice = "lower"
      { \voiceTwo
        a1 ~
        a
        a ~
        a4 \bar "|"
      }
    >>
  }
}
```



## Usar una ratlla curta com a símbol de respiració

La música vocal i de vent usa amb freqüència una ratlla curta com a signe de respiració. Això indica una respiració que treu una mica de temps a la nota anterior enlloc de produir una pausa curta, cosa que s'indica amb la marca de respiració en forma de coma. La marca es pot moure lleugerament cap a dalt per allunyar-la del pentagrama.

```
\relative c'' {
  c2
  \breathe
  d2
  \override BreathingSign.Y-offset = #2.6
  \override BreathingSign.text =
    \markup { \musicglyph "scripts.tickmark" }
  c2
  \breathe
  d2
```



}



## Utilitzar lligadures dobles per acords legato

Alguns compositors escriuen dues lligadures quan volen acords legato. Això es pot aconseguir establint `doubleSlurs`.

```
\relative c' {
  \set doubleSlurs = ##t
  <c e>4( <d f> <c e> <d f>)
}
```



## Ús de la propietat `whiteout`

Es pot imprimir qualsevol objecte gràfic sobre un fons blanc per ocultar part dels objectes que estan a sota. Això pot ser útil per millorar l'aspecte de les col·lisions en situacions complexes quan no es pràctic tornar a col·locar els objectes. Cal establir explícitament la propietat de capa (`layer`) per controlar quins objectes resulten ocultats pel fons blanc.

En aquest exemple, la col·lisió de la lligadura d'unió amb la indicació de compàs resulta millorada ocultant la part de la lligadura que creua la indicació de compàs mitjançant l'establiment de la propietat `whiteout` de `TimeSignature`. per fer això, es mou `TimeSignature` a una capa per sobre de `Tie`, que es deixa a la capa predeterminada d'1, i `StaffSymbol` es mou a una capa per sobre de `TimeSignature` de manera que no resulti ocultada.

```
{
  \override Score.StaffSymbol.layer = 4
  \override Staff.TimeSignature.layer = 3
  b'2 b'~
  \once \override Staff.TimeSignature.whiteout = ##t
  \time 3/4
  b' r4
}
```



## Línia vertical com una articulació barroca

Aquesta línia curta vertical a sobre de la nota és d'ús comú en la música barroca. El seu significat varia, però en general indica notes que s'han de tocar amb més "pes". L'exemple següent mostra com aconseguir aquesta notació.

```
upline =
\tweak stencil
#(lambda (grob)
  (grob-interpret-markup grob #{ \markup \draw-line #'(0 . 1) #}))
```

`\stopped`

```
\relative c' {
  a'4^\upline a( c d')_\upline
}
```



## Alinear verticalment expressions dinàmiques que abasten diverses notes

Les expressions dinàmiques que es comencen, acaben o es produeixen a la mateixa nota, s'alineen verticalment. Per assegurar que les expressions dinàmiques s'alineen quan no es produeixen sobre la mateixa nota, incrementeu la propietat `staff-padding` de l'objecte `DynamicLineSpanner`.

```
\relative c' {
  \override DynamicLineSpanner.staff-padding = #4
  c2\p f\mf
  g2\< b4\> c\!
}
```



## 4 Repeats

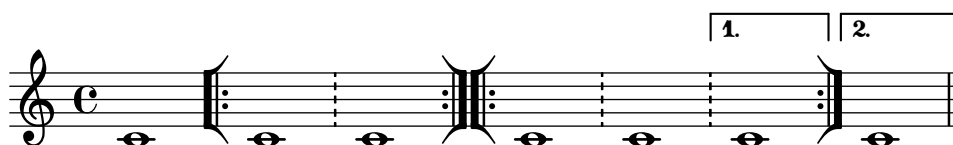
See also Secció “Repeats” in *Referencia de la Notación*.

### Changing the default bar lines

Default bar lines can be changed when re-defined in a Score context.

```
\layout {
  \context {
    \Score
    % Changing the defaults from engraver-init.ly
    measureBarType = "!"
    startRepeatBarType = "[|:"
    endRepeatBarType = ":|]"
    doubleRepeatBarType = ":||[|:"
  }
}

{
  c'1
  \repeat volta 2 { c' c' }
  \repeat volta 2 { c' c' \alternative { \volta 1 { c' }
                                         \volta 2 { c' } } }
  \bar "|."
}
```



### Controlling the appearance of tremolo slashes

Using various properties of the StemTremolo grob it is possible to control the appearance of tremolo slashes.

- Property `slope` sets the slope for tremolo slashes.
- Property `shape` determines whether tremolo slashes look like rectangles (value `rectangle`) or like very small beams (value `beam-like`).
- Property `style` sets both the slope and the shape depending on whether the note has flags, beams, or only a plain stem. This is in contrast to the previous two properties, which change the slope and shape unconditionally. There are two styles defined.
  - `default`: slashes for down-stem flags are longer and more sloped than slashes for up-stem flags; slashes on beamed notes have a rectangular shape and are parallel to the beam.
  - `constant`: all slashes are beam-like and have the same slope except for down-stem flags.

```
music = {
  a''4:32 a':
  e''8: \noBeam e':
  a'':[ a':]
  f':[ g':]
  d':[ d':]
```

```

}

\new Staff {
  <>^\markup "default"
  \music
}

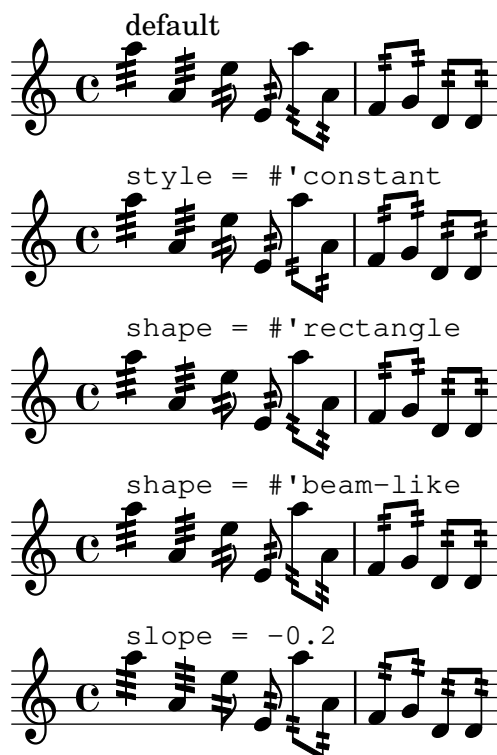
\new Staff {
  <>^\markup \typewriter "style = #'constant"
  \override StemTremolo.style = #'constant
  \music
}

\new Staff {
  <>^\markup \typewriter "shape = #'rectangle"
  \override StemTremolo.shape = #'rectangle
  \music
}

\new Staff {
  <>^\markup \typewriter "shape = #'beam-like"
  \override StemTremolo.shape = #'beam-like
  \music
}

\new Staff {
  <>^\markup \typewriter "slope = -0.2"
  \override StemTremolo.slope = -0.2
  \music
}

```



## Trèmols de pentagrama creuat

Atès que `\repeat tremolo` espera exactament dos arguments musicals per als trèmols d'acord, la nota o acord que canvia de pentagrama a un trèmol que creua el pentagrama s'ha de col·locar dins de claus corbes junt a la seva ordre `\change Staff`.

```
\new PianoStaff <<
  \new Staff = "up" \relative c'' {
    \key a \major
    \time 3/8
    s4.
  }
  \new Staff = "down" \relative c'' {
    \key a \major
    \time 3/8
    \voiceOne
    \repeat tremolo 6 {
      <a e'>32
      {
        \change Staff = "up"
        \voiceTwo
        <cis a' dis>32
      }
    }
  }
}
>>
```



## Trèmols amb barres flotants

Si la duració total d'un trèmol és menor d'una negra, o exactament d'una blanca, normalment es grava amb totes les barres de corxera tocant les pliques. Certs estils de notació de partitures composen algunes d'aquestes barres com a barres flotants centrades que no toquen les pliques de les figures. El nombre de barres flotants en aquest tipus de trèmol està controlat per la propietat `'gap-count` del l'objecte `Beam` i la separació entre les barres i les pliques es fixa amb la propietat `'gap`.

```
\relative c'' {
  \repeat tremolo 8 { a32 f }
  \override Beam.gap-count = #1
  \repeat tremolo 8 { a32 f }
  \override Beam.gap-count = #2
  \repeat tremolo 8 { a32 f }
  \override Beam.gap-count = #3
  \repeat tremolo 8 { a32 f }

  \override Beam.gap-count = #3
  \override Beam.gap = #1.33
```

```

\repeat tremolo 8 { a32 f }
\override Beam.gap = #1
\repeat tremolo 8 { a32 f }
\override Beam.gap = #0.67
\repeat tremolo 8 { a32 f }
\override Beam.gap = #0.33
\repeat tremolo 8 { a32 f }
}

```



## Símbols de percentatge aïllats

També es poden imprimir símbols de percentatge aïllats.

```

makePercent =
#(define-music-function (note) (ly:music?)
  "Make a percent repeat the same length as NOTE."
  (make-music 'PercentEvent
    'length (ly:music-length note)))

\relative c' {
  \makePercent s1
}

```



## Measure counters

This snippet demonstrates the use of the `Measure_counter_engraver` to number groups of successive measures. Any stretch of measures may be numbered, whether consisting of repetitions or not.

The engraver must be added to the appropriate context. Here, a `Staff` context is used; another possibility is a `Dynamics` context.

The counter is begun with `\startMeasureCount` and ended with `\stopMeasureCount`. Numbering will start by default with 1, but this behavior may be modified by overriding the `count-from` property.

When a measure extends across a line break, the number will appear twice, the second time in parentheses.

```

\layout {
  \context {
    \Staff
    \consists #Measure_counter_engraver
  }
}

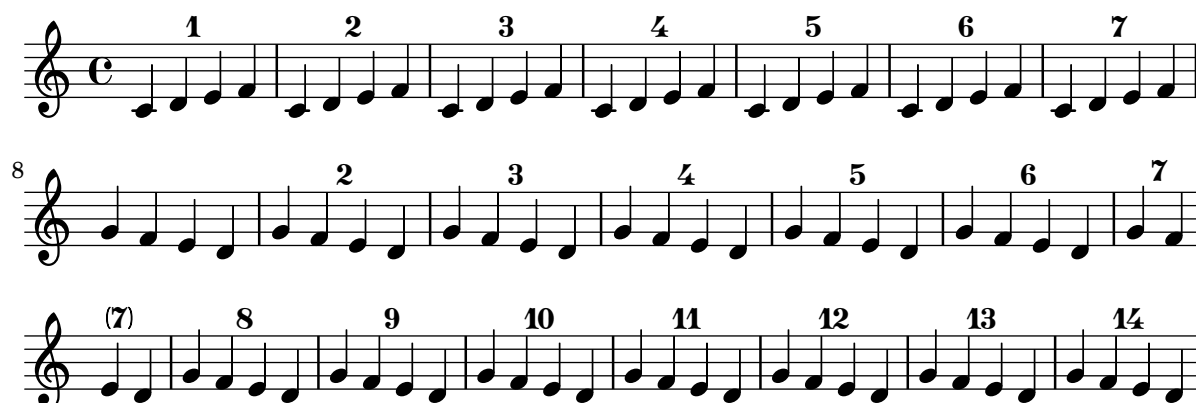
\new Staff {
  \startMeasureCount
  \repeat unfold 7 {

```

```

    c'4 d' e' f'
  }
  \stopMeasureCount
  \bar "||"
  g'4 f' e' d'
  \override Staff.MeasureCounter.count-from = #2
  \startMeasureCount
  \repeat unfold 5 {
    g'4 f' e' d'
  }
  g'4 f'
  \bar ""
  \break
  e'4 d'
  \repeat unfold 7 {
    g'4 f' e' d'
  }
  \stopMeasureCount
}

```



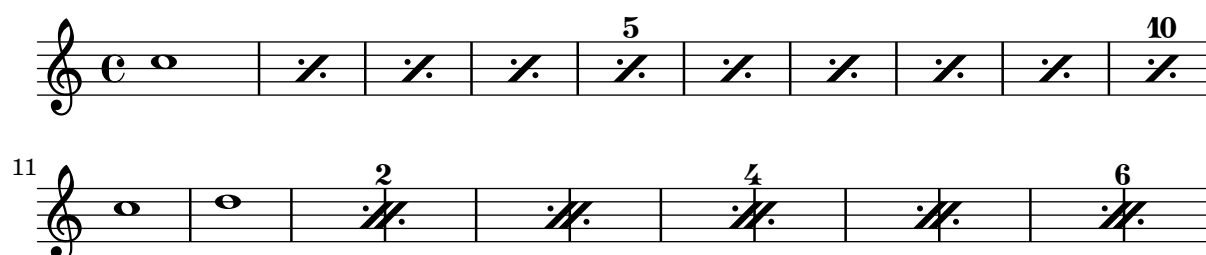
## Visibilitat del comptador de repeticions de tipus percentatge

Es poden mostrar els comptadors de les repeticions del tipus percentatge a intervals regulars mitjançant l'establiment de la propietat de context `repeatCountVisibility`.

```

\relative c' {
  \set countPercentRepeats = ##t
  \set repeatCountVisibility = #(every-nth-repeat-count-visible 5)
  \repeat percent 10 { c1 } \break
  \set repeatCountVisibility = #(every-nth-repeat-count-visible 2)
  \repeat percent 6 { c1 d1 }
}

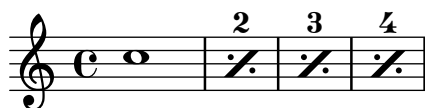
```



## Comptador de repeticions de tipus percentatge

Les repeticions de compassos complets de més en dues repeticions poden portar un comptador si s'activa la propietat adequada, com es veu en aquest exemple:

```
\relative c' ' {
  \set countPercentRepeats = ##t
  \repeat percent 4 { c1 }
}
```

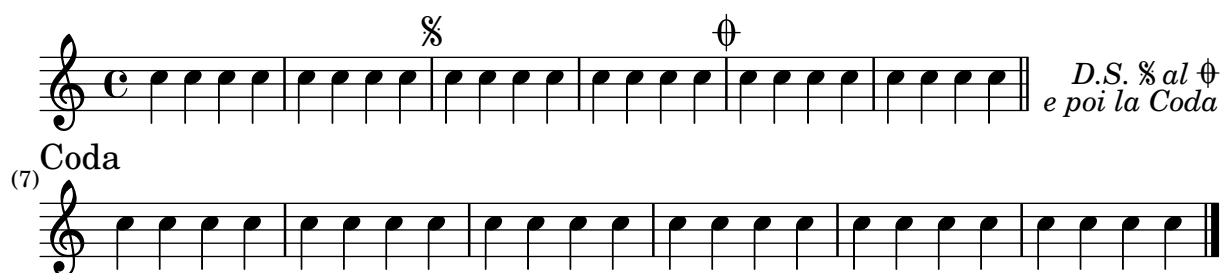


## Posicionar els símbols de repetició segno i coda (amb salts de línia)

Si volem col·locar un símbol de segno de sortida i afegir text com “D.S. al Coda” al costat on normalment estan les línies del pentagrama, podem usar aquest codi. La coda continua en una línia nova. Hi ha una variant documentada en el fragment de codi, on la coda es manté en la mateixa línia.

```
\relative c' ' {
  c4 c c c | c c c c |
  \repeat segno 2 {
    c4 c c c | c c c c |
    \alternative {
      \volta 1 {
        c4 c c c | c c c c |
        % If you don't use \break at Coda, use \noBreak here
        % and after \bar "" below.
        \noBreak
        \section % double bar line
        \cadenzaOn % pause bar count
        \stopStaff % remove staff lines
        % Increasing the unfold counter will expand the staff-free space
        \repeat unfold 4 {
          s1
          \bar ""
        }
        % Place JumpScript where the staff would normally be.
        \once \override Score.JumpScript.outside-staff-priority = ##f
        \once \override Score.JumpScript.Y-offset = 0
        \startStaff % resume bar count
        \cadenzaOff % show staff lines again
      }
    }
  }
}
\sectionLabel "Coda"
% Show Coda on a new line
\break
\repeat unfold 6 { c4 c c c }
\fine
}
```

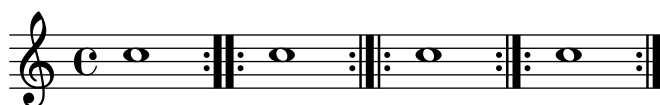




## Establiment del tipus de repetició doble predeterminat per a la primera i la segona vegada

Hi ha tres estils diferents de repeticions dobles per a la primera i la segona vegada, que es poden ajustar utilitzant `doubleRepeatType`.

```
\relative c' ' {
  \repeat volta 2 { c1 }
  \set Score.doubleRepeatBarType = ":...:"
  \repeat volta 2 { c1 }
  \set Score.doubleRepeatBarType = ":\.|\.:"
  \repeat volta 2 { c1 }
  \set Score.doubleRepeatBarType = ":\.|\.:"
  \repeat volta 2 { c1 }
}
```



## Fer més curts els corxets de primer i segona vegada

De forma predeterminada, els corxets de primera i segona vegada es tracen a sobre els finals alternatius complets, però és possible fer-los més curts establint un valor cer per a `voltaSpannerDuration`. A l'exemple següent, el corxet sols dura un compàs, que correspon a una duració de 3/4.

```
\fixed c' ' {
  \time 3/4
  c4 c c
  \repeat volta 5 {
    d4 d d
    \alternative {
      \volta 1,2,3,4 {
        \once \override Score.VoltaBracket.musical-length =
          \musicLength 2.
        e4 e e
        f4 f f
      }
      \volta 5 {
        g4 g g } } }
  }
}
```



## Unfolding tremolo repeats

Currently, `note:duration`, which is more or less a shortcut for `\repeat tremolo`, is not unfolded by `\unfoldRepeats` (this is tracked in Issue #6145 (<https://gitlab.com/lilypond/lilypond/-/issues/6145>)). The function given in this snippet provides a workaround.

```
fixTremolos =
#(define-music-function (music) (ly:music?)
  (music-map
    (lambda (m)
      (let ((event (any (lambda (a)
                          (and (music-is-of-type? a 'tremolo-event)
                              a))
                        (ly:music-property m 'articulations)))))
        (if event
          (let* ((total-tremolo-duration (ly:music-property m
                                                             'duration))
                 (tremolo-type (ly:music-property event
                                                    'tremolo-type))
                 (one-tremolo-note-duration
                  (ly:make-duration (ly:intlog2 tremolo-type)))
                 (tremolo-note-count
                  (/ tremolo-type (expt 2 (ly:duration-log
                                           total-tremolo-duration)))))
            (set! (ly:music-property m 'duration)
                  one-tremolo-note-duration)
            (set! (ly:music-property m 'articulations)
                  (delete! event (ly:music-property m 'articulations)))
            (make-music 'TremoloRepeatedMusic
                        'repeat-count tremolo-note-count
                        'element m))
          m)))
  music))
```

```
unfoldRepeats = \unfoldRepeats #'() \fixTremolos \etc
```

```
music = { \repeat tremolo 8 c'16 c'2:16 }
```

```
{
  \music
  \unfoldRepeats \music
}
```



## Corxets de primera i segona vegada a sota dels acords

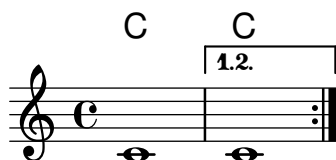
Mitjançant l'addició del gravador `Volta_engraver` al pentagrama pertinent, es poden posar els corxets de primera i segona veu a sota dels acords.

```
\score {
  <<
    \chords { c1 c1 }
```

```

\new Staff \with { \consists "Volta_engraver" }
{
  \repeat volta 2 { c'1 \alternative { c' } }
}
>>
\layout {
  \context {
    \Score
    \remove "Volta_engraver"
  }
}
}

```



## Volta brackets in multiple staves

By adding the `Volta_engraver` to the relevant staff, volte can be put over staves other than the topmost one in a score.

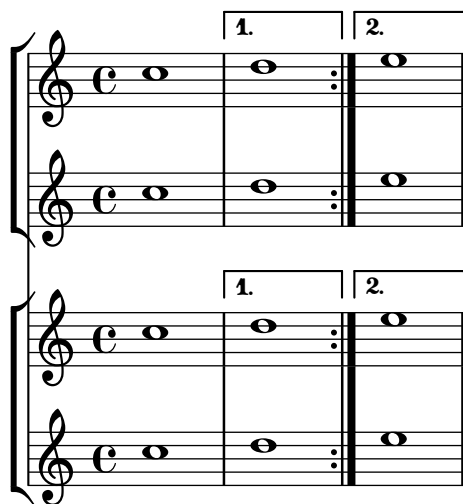
`\repeat` and related commands should be present in all staves.

```

voltaMusic = \relative c'' {
  \repeat volta 2 {
    c1
    \alternative {
      \volta 1 { d1 }
      \volta 2 { e1 }
    }
  }
}

<<
\new StaffGroup <<
  \new Staff \voltaMusic
  \new Staff \voltaMusic
>>
\new StaffGroup <<
  \new Staff \with { \consists "Volta_engraver" }
    \voltaMusic
  \new Staff \voltaMusic
>>
>>

```



## Elements de marcatge per al text de les caselles de repetició usant repeatCommands

Tot i que les caselles de repetició s'especifiquen de forma òptima usant `\repeat volta`, s'ha d'usar la propietat de context `repeatCommands` en cas que el text de la casella requereixi un format més avançat amb `\markup`.

Atès que `repeatCommands` admet una llista, el mètode més senzill d'incloure elements de marcatge és usar un identificador per al text i inserir-lo a la llista d'ordres usant la sintaxi de l'Scheme `#(list (list 'volta textIdentifier))`. Les ordres de principi i fi de repetició es poden afegir com elements de llista independents:

```
voltaAdLib = \markup { \volta-number { 1. 2. 3... } \italic { ad lib. } }
```

```
\relative c' ' {
  c1
  \set Score.repeatCommands = #`((volta ,voltaAdLib) start-repeat)
  c4 b d e
  \set Score.repeatCommands = #'((volta #f) (volta "4.") end-repeat)
  f1
  \set Score.repeatCommands = #'((volta #f))
}
```



## 5 Simultaneous notes

See also Secció “Simultaneous notes” in *Referencia de la Notación*.

### Veus addicionals per evitar col·lisions

En certs casos de polifonia complexa, calen veus addicionals per evitar col·lisions entre les notes. Si calen més de quatre veus paral·leles, les veus addicionals s’afegeixen definint una variable que utilitza la funció de l’Scheme `context-spec-music`.

```
voiceFive = #(context-spec-music (make-voice-props-set 4) 'Voice)
```

```
\relative c' ' {
  \time 3/4
  \key d \minor
  \partial 2
  <<
    \new Voice {
      \voiceOne
      a4. a8
      e'4 e4. e8
      f4 d4. c8
    }
    \new Voice {
      \voiceTwo
      d,2
      d4 cis2
      d4 bes2
    }
    \new Voice {
      \voiceThree
      f'2
      bes4 a2
      a4 s2
    }
    \new Voice {
      \voiceFive
      s2
      g4 g2
      f4 f2
    }
  >>
}
```



### Changing \partCombine texts

When using the automatic part combining feature, the printed text for the solo and unison sections may be changed.

```
\new Staff <<
```

```

\set Staff.soloText = "girl"
\set Staff.soloIIText = "boy"
\set Staff.aDueText = "together"
\partCombine
  \relative c' {
    g4 g r r
    a2 g
  }
  \relative c' {
    r4 r a( b)
    a2 g
  }
>>

```



## Changing a single note's size in a chord

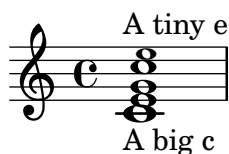
Individual note heads in a chord can be modified with the `\tweak` command inside a chord, by altering the `font-size` property.

Inside the chord (within the brackets `< >`), before the note to be altered, place the `\tweak` command, followed by `font-size` and define the proper size like `#-2` (a tiny note head).

```

\relative c' {
  <\tweak font-size #+2 c e g c
  \tweak font-size #-2 e>1
  ~\markup { A tiny e }_~\markup { A big c }
}

```



## Clusters («ràims»)

Els «clusters» o ràims són un mecanisme per indicar la interpretació d'un àmbit de notes al mateix temps.

```

fragment = \relative c' {
  c4 f <e d'>4
  <g a>8 <e a> a4 c2 <d b>4
  e2 c
}

<<
  \new Staff \fragment
  \new Staff \makeClusters \fragment
>>

```



## Combinar dues parts sobre el mateix pentagrama

L'eina de combinació de parts (ordre `\partcombine`) permet la combinació de diverses parts diferents sobre el mateix pentagrama. Les indicacions textuais com ara “solo” o “a2” s'afegeixen de forma predeterminada; per treure-les, senzillament heu d'establir la propietat `printPartCombineTexts` al valor “fals”. Per a partitures vocals (com himnes), no cal afegir els textos “solo” o “a2”, per la qual cosa s'han de deshabilitar. No obstant, podria ser millor no usar-lo si hi ha solos, perquè no s'indicaran. En aquests casos podria ser preferible la notació polifònica estàndard.

Aquest fragment de codi presenta les tres formes en las quals es poden imprimir dues parts sobre un sol pentagrama: polifonia estàndard, `\partcombine` sense textos, i `\partcombine` amb textos.

```
musicUp = \relative c'' {
  \time 4/4
  a4 c4.( g8) a4 |
  g4 e' g,( a8 b) |
  c b a2.
}

musicDown = \relative c'' {
  g4 e4.( d8) c4 |
  r2 g'4( f8 e) |
  d2 \stemDown a
}

\score {
  <<
    \new Staff \with {
      instrumentName = "standard polyphony"
    } << \musicUp \\\musicDown >>

    \new Staff \with {
      instrumentName =
        \markup { \typewriter "\\partCombine" without text}
      printPartCombineTexts = ##f
    } \partCombine \musicUp \musicDown

    \new Staff \with {
      instrumentName =
        \markup { \typewriter "\\partCombine" with text}
    } \partCombine \musicUp \musicDown
  >>

  \layout {
```

```

indent = 6.0\cm
\context {
  \Score
  % Setting this to a large value avoids a bar line at the
  % beginning that would connect the three staves otherwise.
  \override SystemStartBar.collapse-height = 30
}
}
}

```

standard polyphony

\partCombine without text

\partCombine with text



## Impressió d'acords complexos

Aquí es presenta una forma d'imprimir un acord en la qual sona la mateixa nota dues vegades amb diferents alteracions.

```

fixA = {
  \once \override Stem.length = #12
}

fixB = {
  \once \override NoteHead.X-offset = #1.7
  \once \override Stem.length = #7
  \once \override Stem.rotation = #'(45 0 0)
  \once \override Stem.extra-offset = #'(-0.1 . -0.2)
  \once \override Flag.style = #'no-flag
  \once \override Accidental.extra-offset = #'(4 . -.1)
}

\relative c' {
  << { \fixA <b d!>8 } \ { \voiceThree \fixB dis } >> s
}

```



## Forçar el desplaçament horitzontal de les notes

Quan el motor de gravat no és capaç de tot, es pot usar la sintaxi següent per sobreesciure les decisions de tipografia. Les unitats de mesura que s'usen aquí són espais de pentagrama.

```
\relative c' <<
```



```

{
  <d g>2 <d g>
}
\\
{
  <b f'>2
  \once \override NoteColumn.force-hshift = 1.7
  <b f'>2
}
>>

```



## Making an object invisible using \hide

Applying `\hide` to a grob causes objects of this type to be printed with “invisible ink”. They are not printed, but all of their other behavior is retained:

- the objects still take up space,
- they take part in collision resolution, and
- slurs, ties, and beams can be attached to them as usual.

This snippet demonstrates how to connect different voices using ties. Normally, ties only connect two notes in the same voice. By introducing a tie in a different voice, and blanking the first up-stem in that voice, the tie appears to cross voices.

```

\relative {
  \time 2/4
  <<
  {
    \once \hide Stem
    \once \override Stem.length = #8
    b'8 ~ 8\noBeam
    \once \hide Stem
    \once \override Stem.length = #8
    g8 ~ 8\noBeam
  }
  \\
  {
    b8 g g e
  }
  >>
}

```

```

\paper {
  line-width = 40\mm
  ragged-right = ##f
}

```



## Desplaçament de les notes amb puntet en polifonia

Quan una nota amb puntet a la veu superior es mou per evitar la col·lisió amb una nota de una altra veu, el comportament predeterminat és desplaçar la nota superior a la dreta. Es pot canviar usant la propietat `prefer-dotted-right` de `NoteCollision`.

```
\new Staff \relative c' <<
{
  f2. f4
  \override Staff.NoteCollision.prefer-dotted-right = ##f
  f2. f4
  \override Staff.NoteCollision.prefer-dotted-right = ##t
  f2. f4
}
\\
{ e4 e e e e e e e e e e }
>>
```



## Evitar els advertiments sobre columnes de notes que xoquen

Si es col·loquen sobre la mateixa posició notes de dues veus diferents amb les pliques en la mateixa direcció, i cap de les veus té un desplaçament o ambdues tenen el mateix desplaçament, apareix el missatge d'error 'advertiment: massa columnes de notes en col·lisió, s'ignora' en compilar el fitxer del LilyPond. Aquest missatge es pot evitar fixant la propietat `'ignore-collision` de l'objecte `NoteColumn` al valor `#t`. Observeu que això no elimina sols els advertiments, sinó que fa que el LilyPond deixi d'intentar resoldre les col·lisions en absolut, per la qual cosa poden obtenir-se resultats diferents dels esperats si no s'usa amb prudència.

```
ignore = \override NoteColumn.ignore-collision = ##t
```

```
\relative c' {
  \new Staff <<
    \new Voice { \ignore \stemDown f2 g }
    \new Voice { c2 \stemDown c, }
  >>
}
```



## Two \partCombine pairs on one staff

The `\partCombine` function takes two music expressions, each containing a part, and distributes them among four Voice contexts named "one", "two", "solo", and "shared", depending on when and how the parts are merged into a common voice.

Variants of `\partCombine` are `\partCombineUp` and `\partCombineDown` to produce up-stem and down-stem merging of two voices, respectively. Combining them to squeeze four parts into a single staff, however, need some special setup, which this snippet defines accordingly.

```
customPartCombineUp =
```

```
#(define-music-function (part1 part2) (ly:music? ly:music?)
  "Make an up-stem `VoiceBox` context that combines PART1 and PART2.
```

The context is called 'Up'; internally, the function calls  
`\\partCombineUp`."

```
{
  \new VoiceBox = "Up" <<
    \context Voice = "one" { \voiceOne }
    \context Voice = "two" { \voiceThree }
    \context Voice = "shared" { \voiceOne }
    \context Voice = "solo" { \voiceOne }
    \context NullVoice = "null" {}
    \partCombine #part1 #part2
  >>
}
```

```
customPartCombineDown =
#(define-music-function (part3 part4) (ly:music? ly:music?)
  "Make a down-stem `VoiceBox` context that combines PART3 and PART4.
```

The context is called 'Down'; internally, the function calls  
`\\partCombineDown`."

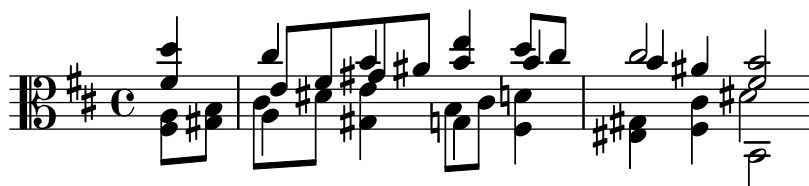
```
{
  \new VoiceBox = "Down" <<
    \set VoiceBox.soloText = #"Solo III"
    \set VoiceBox.soloIIIText = #"Solo IV"
    \context Voice = "one" { \voiceFour }
    \context Voice = "two" { \voiceTwo }
    \context Voice = "shared" { \voiceFour }
    \context Voice = "solo" { \voiceFour }
    \context NullVoice = "null" {}
    \partCombine #part3 #part4
  >>
}
```

```
soprano = { d'4 | cis' b e' d'8 cis' | cis'2 b }
alto = { fis4 | e8 fis gis ais b4 b | b ais fis2 }
tenor = { a8 b | cis' dis' e'4 b8 cis' d'4 | gis cis' dis'2 }
bass = { fis8 gis | a4 gis g fis | eis fis b,2 }
```

```
\new Staff <<
  \key b\minor
  \clef alto
  \partial 4
  \transpose b b' \customPartCombineUp \soprano \alto
  \customPartCombineDown \tenor \bass
>>
```

```
\layout {
  \context {
    \Staff
    \accepts "VoiceBox"
```

```
}
\context {
  \name "VoiceBox"
  \type "Engraver_group"
  \defaultchild "Voice"
  \accepts "Voice"
  \accepts "NullVoice"
}
}
```



## 6 Staff notation

See also Secció “Staff notation” in *Referencia de la Notación*.

### Afegir un àmbit per veu

Es pot afegir un àmbit per cada veu. En aquest cas, l'àmbit s'ha de desplaçar manualment per evitar col·lisions.

```
\new Staff <<
  \new Voice \with {
    \consists "Ambitus_engraver"
  } \relative c'' {
    \override Ambitus.X-offset = 2.0
    \voiceOne
    c4 a d e
    f1
  }
  \new Voice \with {
    \consists "Ambitus_engraver"
  } \relative c' {
    \voiceTwo
    es4 f g as
    b1
  }
}>>
```

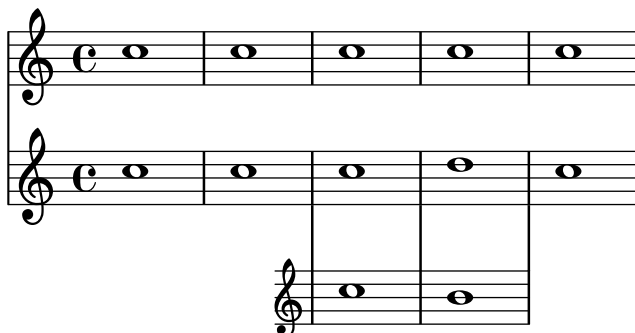


### Afegir un pentagrama nou

Es pot afegir (possiblement de forma temporal) un pentagrama nou un cop la peça ha començat.

```
\score {
  <<
    \new Staff \relative c'' {
      c1 | c | c | c | c
    }
    \new StaffGroup \relative c'' {
      \new Staff {
        c1 | c
      } <<
        { c1 | d }
      \new Staff {
        \once \omit Staff.TimeSignature
        c1 | b
      }
    } >>
  } >>
  c1
}
```

}

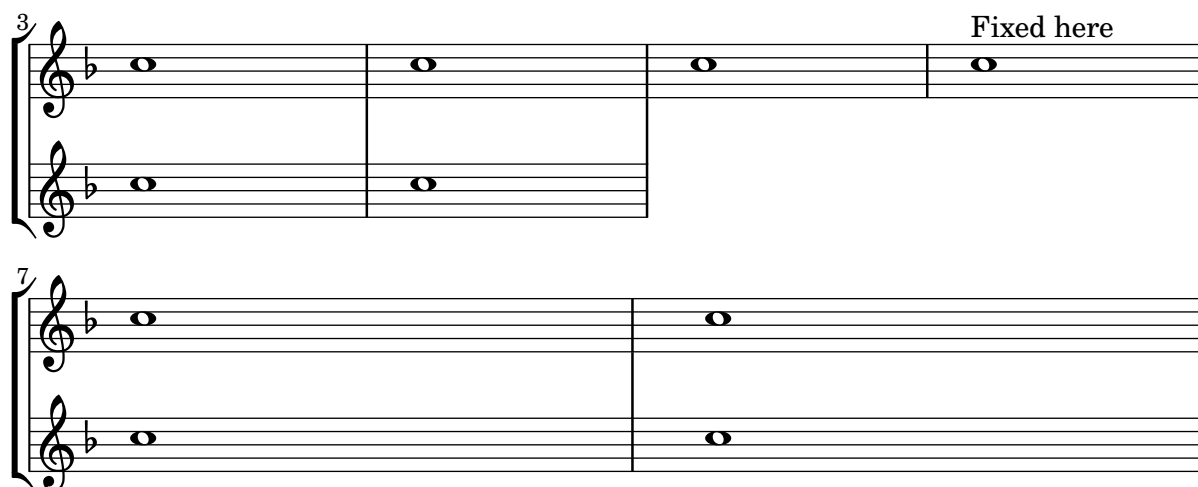


## Afegir un pentagrama addicional a un salt de línia

En afegir un pentagrama nou a un salt de línia, per desgràcia s'afegeix un espai addicional al final de la línia abans del salt (reservat per fer lloc a un canvi d'armadura que de totes formes no s'imprimirà). La solució alternativa és afegir un ajustament per a `Staff.explicitKeySignatureVisibility` com es mostra a l'exemple.

```
\score {
  \new StaffGroup \relative c'' {
    \new Staff
    \key f \major
    c1 c^"Unwanted extra space" \break
    << { c1 | c }
    \new Staff {
      \key f \major
      \once \omit Staff.TimeSignature
      c1 | c
    }
  }
  >>
  c1 | c^"Fixed here" \break
  << { c1 | c }
  \new Staff {
    \once \set Staff.explicitKeySignatureVisibility =
      #end-of-line-invisible
    \key f \major
    \once \omit Staff.TimeSignature
    c1 | c
  }
  >>
}
```





## Afegir indicadors als pentagrames que es divideixen després d'un salt de línia

Aquest fragment de codi defineix les ordres `\splitStaffBarLine`, `convUpStaffBarLine` i `convDownStaffBarLine`, que afegeix una fletxa doble a l'últim compàs d'un pentagrama, indicant que les diverses veus disposaran d'un pentagrama propi a la línia següent.

```
#(define-markup-command (arrow-at-angle layout props angle-deg length fill)
  (number? number? boolean?)
  (let* ((PI-OVER-180 (/ (atan 1 1) 34))
        (degrees->radians (lambda (degrees) (* degrees PI-OVER-180)))
        (angle-rad (degrees->radians angle-deg))
        (target-x (* length (cos angle-rad)))
        (target-y (* length (sin angle-rad))))
    (interpret-markup layout props
      (markup
        #:translate (cons (/ target-x 2) (/ target-y 2))
        #:rotate angle-deg
        #:translate (cons (/ length -2) 0)
        #:concat (#:draw-line (cons length 0)
          #:arrow-head X RIGHT fill))))))

splitStaffBarLineMarkup = \markup \with-dimensions #'(0 . 0) #'(0 . 0) {
  \combine
  \arrow-at-angle #45 #(sqrt 8) ##t
  \arrow-at-angle #-45 #(sqrt 8) ##t
}

splitStaffBarLine = {
  \once \override Staff.BarLine.stencil =
  #(lambda (grob)
    (ly:stencil-combine-at-edge
      (ly:bar-line::print grob)
      X RIGHT
      (grob-interpret-markup grob splitStaffBarLineMarkup)
      0))
  \break
}
```

```

convDownStaffBarLine = {
  \once \override Staff.BarLine.stencil =
  #(lambda (grob)
    (ly:stencil-combine-at-edge
      (ly:bar-line::print grob)
      X RIGHT
      (grob-interpret-markup grob #{
        \markup\with-dimensions #'(0 . 0) #'(0 . 0) {
          \translate #'(0 . -.13)\arrow-at-angle #-45 #(\sqrt 8) ##t
        }#})
      0))
  \break
}

convUpStaffBarLine = {
  \once \override Staff.BarLine.stencil =
  #(lambda (grob)
    (ly:stencil-combine-at-edge
      (ly:bar-line::print grob)
      X RIGHT
      (grob-interpret-markup grob #{
        \markup\with-dimensions #'(0 . 0) #'(0 . 0) {
          \translate #'(0 . .14)\arrow-at-angle #45 #(\sqrt 8) ##t
        }#})
      0))
  \break
}

\paper {
  indent = 10\mm
  short-indent = 10\mm
  line-width = 8\cm
}

separateSopranos = {
  \set Staff.instrumentName = "AI AII"
  \set Staff.shortInstrumentName = "AI AII"
  \splitStaffBarLine
  \change Staff = "up"
}

convSopranos = {
  \convDownStaffBarLine
  \change Staff = "shared"
  \set Staff.instrumentName = "S A"
  \set Staff.shortInstrumentName = "S A"
}

sI = {
  \voiceOne
  \repeat unfold 4 f''2
  \separateSopranos

```



```

    \repeat unfold 4 g''2
    \convSopranos
    \repeat unfold 4 c''2
}
sII = {
    s1*2
    \voiceTwo
    \change Staff = "up"
    \repeat unfold 4 d''2
}
aI = {
    \voiceTwo
    \repeat unfold 4 a'2
    \voiceOne
    \repeat unfold 4 b'2
    \convUpStaffBarLine
    \voiceTwo
    \repeat unfold 4 g'2
}
aII = {
    s1*2
    \voiceTwo
    \repeat unfold 4 g'2
}
ten = {
    \voiceOne
    \repeat unfold 4 c'2
    \repeat unfold 4 d'2
    \repeat unfold 4 c'2
}
bas = {
    \voiceTwo
    \repeat unfold 4 f2
    \repeat unfold 4 g2
    \repeat unfold 4 c2
}

\markup \pad-x #3 % avoid cropping
\score {
  <<
    \new ChoirStaff <<
      \new Staff = up \with {
        instrumentName = "SI SII"
        shortInstrumentName = "SI SII"
      } {
        s1*4
      }

      \new Staff = shared \with {
        instrumentName = "S A"
        shortInstrumentName = "S A"
      } <<

```

```

    \new Voice = sopI \sI
    \new Voice = sopII \sII
    \new Voice = altI \aI
    \new Voice = altII \aII
  >>
  \new Lyrics \with {
    alignBelowContext = up
  }
  \lyricsto sopII { e f g h }
  \new Lyrics \lyricsto altI { a b c d e f g h i j k l }

  \new Staff = men \with {
    instrumentName = "T B"
    shortInstrumentName = "T B"
  } <<
    \clef F
    \new Voice = ten \ten
    \new Voice = bas \bas
  >>
  \new Lyrics \lyricsto bas { a b c d e f g h i j k l }
  >>
  >>

  \layout {
    \context {
      \Staff \RemoveEmptyStaves
      \override VerticalAxisGroup.remove-first = ##t
    }
  }
}

```

The image displays three musical staves with vocal and orchestral notation. The first staff shows Soprano (S A) and Tenor/Bass (T B) parts with notes a, b, c, d. The second staff shows Soprano I (SI SII) and Alto I (AI AII) parts with notes e, f, g, h, and a Tenor/Bass (T B) part. The third staff shows Soprano (S A) and Tenor/Bass (T B) parts with notes i, j, k, l. All staves are in common time (C) and use a key signature of one flat (Bb).

## Afegir notes guia orquestrals a una partitura vocal

Aquest exemple mostra una forma de simplificar l'addició de moltes notes guia orquestrals a la reducció de piano a una partitura vocal. La funció musical `\cueWhile` agafa quatre arguments: la música de la qual es pren la citació, com ve definida per `\addQuote`, el nom a inserir abans de la notes guia, i després `#UP` o `#DOWN` per especificar `\voiceOne` amb el nom a sobre del pentagrama o bé `\voiceTwo` amb el nom a sota del pentagrama, i finalment la música de piano amb la qual les notes guia han d'aparèixer en paral·lel. El nom de l'instrument citat es posiciona a l'esquerra de les notes guia. Es poden citar molts passatges com a guia, però no es poden superposar en el temps entre ells.

```
cueWhile =
#(define-music-function
  (instrument name dir music)
  (string? string? ly:dir? ly:music?)
  #{
    \cueDuring $instrument #dir {
      \once \override TextScript.self-alignment-X = #RIGHT
```

```

        \once \override TextScript.direction = $dir
        <>-\markup { \tiny #name }
        $music
    }
    #})

flute = \relative c'' {
    \transposition c'
    s4 s4 e g
}
\addQuote "flute" { \flute }

clarinet = \relative c' {
    \transposition bes
    fis4 d d c
}
\addQuote "clarinet" { \clarinet }

singer = \relative c'' { c4. g8 g4 bes4 }
words = \lyricmode { here's the lyr -- ics }

pianoRH = \relative c'' {
    \transposition c'
    \cueWhile "clarinet" "Clar." #DOWN { c4. g8 }
    \cueWhile "flute" "Flute" #UP { g4 bes4 }
}
pianoLH = \relative c { c4 <c' e> e, <g c> }

\score {
    <<
        \new Staff {
            \new Voice = "singer" {
                \singer
            }
        }
        \new Lyrics {
            \lyricsto "singer"
            \words
        }
        \new PianoStaff <<
            \new Staff {
                \new Voice {
                    \pianoRH
                }
            }
            \new Staff {
                \clef "bass"
                \pianoLH
            }
        >>
    >>
}

```



## Numeració de compassos alternativa

Es poden seleccionar dos mètodes alternatius per a la numeració de compassos, especials quan hi ha repeticions.

```
music = \relative c' {
  \repeat volta 3 {
    c4 d e f |
    \alternative {
      \volta 1 { c4 d e f | c2 d \break }
      \volta 2 { f4 g a b | f4 g a b | f2 a | \break }
      \volta 3 { c4 d e f | c2 d } } }
  c1 \bar " | ."
}

{
  \textMark \markup \large "default"
  \music
}

{
  \textMark \markup \large \typewriter "numbers"
  \set Score.alternativeNumberingStyle = #'numbers
  \music
}

{
  \textMark \markup \large \typewriter "numbers-with-letters"
  \set Score.alternativeNumberingStyle = #'numbers-with-letters
  \music
}

\layout {
  \context {
    \Score
    \override TextMark.Y-offset = #5
  }
}
```

default

numbers

numbers-with-letters

## Ambitus after key signature

By default, ambitus are positioned at the left of the clef. The `\ambitusAfter` function allows for changing this placement. Syntax is `\ambitusAfter grob-interface`; see Graphical Object Interfaces (<https://lilypond.org/doc/v2.24/Documentation/internals/graphical-object-interfaces>) for a list of possible values for `grob-interface`.

A common use case is printing the ambitus between key signature and time signature.

```
\new Staff \with {
  \consists Ambitus_engraver
} \relative {
  \ambitusAfter key-signature
  \key d \major
  es'8 g bes cis d2
}
```

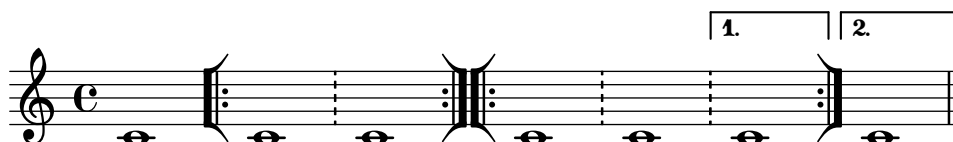


## Changing the default bar lines

Default bar lines can be changed when re-defined in a Score context.

```
\layout {
  \context {
    \Score
    % Changing the defaults from engraver-init.ly
    measureBarType = "!"
    startRepeatBarType = "[|:"
    endRepeatBarType = ":|]"
    doubleRepeatBarType = ":||[|:"
  }
}

{
  c'1
  \repeat volta 2 { c' c' }
  \repeat volta 2 { c' c' \alternative { \volta 1 { c' }
                                         \volta 2 { c' } } }
  \bar "|."
}
```



## Canvi del nombre de línies d'una pauta

El nombre de línies d'una pauta es pot modificar sobreescrivint la propietat `line-count` de l'objecte `StaffSymbol`.

```
upper = \relative c'' {
  c4 d e f
}

lower = \relative c {
  \clef bass
  c4 b a g
}

\score {
  \context PianoStaff <<
    \new Staff {
      \upper
    }
    \new Staff {
      \override Staff.StaffSymbol.line-count = #4
      \lower
    }
  }
}
```

```
>>
}
```



## Modificar la mida de la pauta

Tot i que la manera més senzilla de redimensionar els pentagrames és usar  `#(set-global-staff-size xx)`, la mida d'una pauta individual es pot canviar escalant les propietats de `'staff-space` i de `fontSize`.

```
<<
\new Staff \relative c'' {
  \dynamicDown c8\ff c c c c c c c
}
\new Staff \with {
  fontSize = #-3
  \override StaffSymbol.staff-space = #(magstep -3)
} \relative c {
  \clef bass c8 c c c c\ff c c c
}
>>
```



## Crear pentagrames en blanc

Per crear pentagrames en blanc, genereu compassos buits i després elimineu el gravador de números de compàs `Bar_number_engraver` del context `Score`, i els gravadors de la indicació de compàs `Time_signature_engraver`, de la clau `Clef_engraver` i dels compassos `Bar_engraver` del context de `Staff`.

```
#(set-global-staff-size 10) % for the documentation
% #(set-global-staff-size 20) % for letter and A4
```

```
\book {
  \score {
    { \repeat unfold 12 { s1 \break } }

    \layout {
      indent = 0
      \context {
        \Staff
        \remove "Time_signature_engraver"
```



```

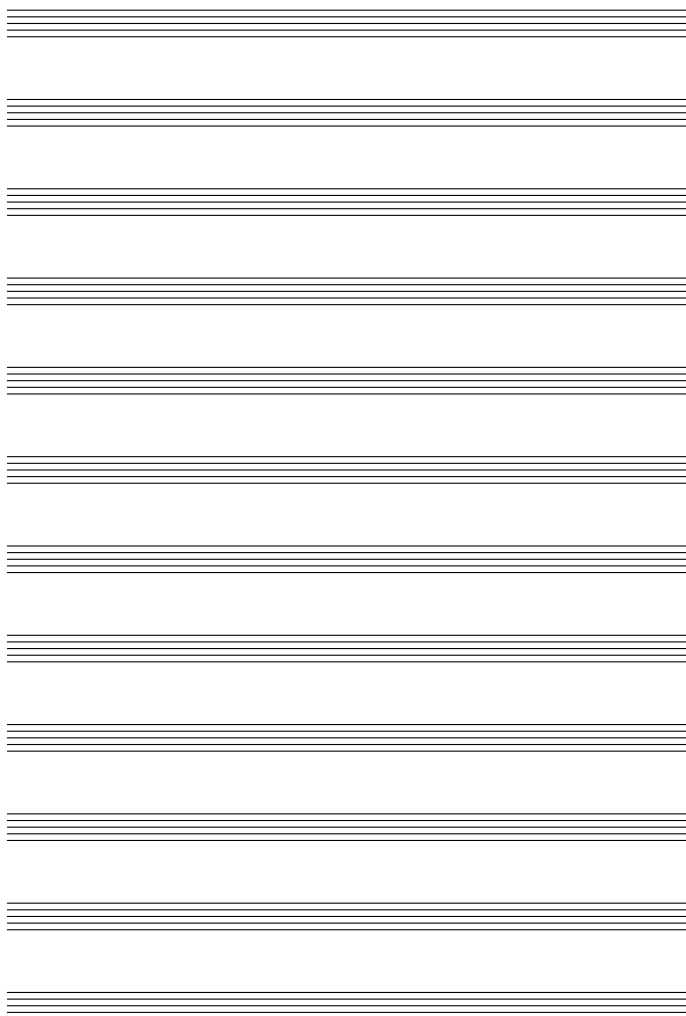
        \remove "Clef_engraver"
        \remove "Bar_engraver"
    }
    \context {
        \Score
        \remove "Bar_number_engraver"
    }
}

% for the documentation
\paper {
    #(set-paper-size "a6")
    ragged-last-bottom = ##f
    line-width = 90\mm
    left-margin = 7.5\mm
    bottom-margin = 5\mm
    top-margin = 5\mm
    tagline = ##f
}

% uncomment these lines for "letter" size
%{
\paper {
    #(set-paper-size "letter")
    ragged-last-bottom = ##f
    line-width = 7.5\in
    left-margin = 0.5\in
    bottom-margin = 0.25\in
    top-margin = 0.25\in
    tagline = ##f
}
}%

% uncomment these lines for "A4" size
%{
\paper {
    #(set-paper-size "a4")
    ragged-last-bottom = ##f
    line-width = 180\mm
    left-margin = 15\mm
    bottom-margin = 10\mm
    top-margin = 10\mm
    tagline = ##f
}
}%
}

```



## Creació d'armadures personalitzades

El LilyPond accepta armadures personalitzades. En aquest exemple, es mostra l'armadura de re menor amb una rang estàndard de bemolls.

```
\new Staff \with {
  \override StaffSymbol.line-count = #8
  \override KeySignature.flat-positions = #'((-7 . 6))
  \override KeyCancellation.flat-positions = #'((-7 . 6))
  \override KeySignature.sharp-positions = #'((-6 . 7))
  \override KeyCancellation.sharp-positions = #'((-6 . 7))

  \override Clef.stencil =
    #(lambda (grob)
      (grob-interpret-markup grob
        #{ \markup\combine
          \musicglyph "clefs.C"
          \translate #'(-3 . -2)
          \musicglyph "clefs.F"
        #}))
      clefPosition = #3
      middleCPosition = #3
      middleCClefPosition = #3
```

```

}

{
  \key d\minor f bes, f bes, |
  \key d\major fis b, fis b, |
}

```



## Pliques de pentagrama creuat

Aquest fragment de codi mostra l'ús del gravador `Span_stem_engraver` i de `\crossStaff` per connectar automàticament pliques d'un pentagrama a un altre. No cal especificar la longitud de la plica perquè la distància variable entre els caps de les notes i els pentagrames es calcula automàticament.

```

\layout {
  \context {
    \PianoStaff
    \consists "Span_stem_engraver"
  }
}

\new PianoStaff <<
  \new Staff {
    <b d'>4 r d'16\> e'8. g8 r\! |
    e'8 f' g'4
    \voiceTwo
    % Down to lower staff
    \crossStaff { e'8 e'8 } e'4 |
  }

  \new Staff {
    \clef bass
    \voiceOne
    % Up to upper staff
    \crossStaff { <e g>4 e, g16 a8. c8 } d |
    g8 f g4 \voiceTwo g8 g g4 |
  }
}
>>

```

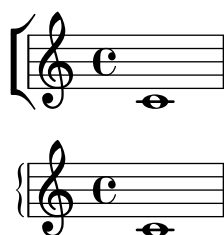


## Mostrar claudàtor o clau en grups d'un sol pentagrama

Si hi ha un sol pentagrama en un dels tipus de sistema `ChoirStaff` o `StaffGroup`, el comportament predeterminat és que no s'imprimeixi el claudàtor a la barra inicial. Això es pot canviar sobreescrivint `collapse-height` per fixar el seu valor de manera que sigui menor que el nombre de línies a la pauta.

Observeu que en contextos com `PianoStaff` i `GrandStaff` en els quals els sistemes comencen amb una clau en comptes d'un claudàtor, s'ha d'establir el valor d'una propietat diferent, com es veu al segon sistema de l'exemple.

```
\score {
  \new StaffGroup <<
    % Must be lower than the actual number of staff lines
    \override StaffGroup.SystemStartBracket.collapse-height = 4
    \override Score.SystemStartBar.collapse-height = 4
    \new Staff {
      c'1
    }
  >>
}
\score {
  \new PianoStaff <<
    \override PianoStaff.SystemStartBrace.collapse-height = 4
    \override Score.SystemStartBar.collapse-height = 4
    \new Staff {
      c'1
    }
  >>
}
```



## Mostrar un sistema GrandStaff complet si segueix amb vida un sol dels seus pentagrames

A vegades, a les partitures orquestrals es deixen en silenci instruments individuals o grups d'ells durant un període de temps, i els seus pentagrames corresponents es poden suprimir durant aquest temps (amb `\removeEmptyStaves`).

Quan tornen a sonar, sovint es prefereix mostrar tots els instruments del grup. Això es pot fer afegint el gravador `Keep_alive_together_engraver` en el context agrupador (per exemple: un `GrandStaff` o un `StaffGroup`).

En aquest exemple, els violins estan en silenci durant els sistemes segon i tercer. Sols el violí primer sona a l'últim compàs, però es mostra també el pentagrama del violí segon.

```
\score {
  <<
    \new Staff = "Staff_flute" \with {
      instrumentName = "Flute"
```

```

    shortInstrumentName = "Fl"
} \relative c' {
  \repeat unfold 3 { c'4 c c c | c c c c | c c c c | \break }
}

\new StaffGroup = "StaffGroup_Strings" <<
  \new GrandStaff = "GrandStaff_violins" <<
    \new Staff = "StaffViolinI" \with {
      instrumentName = "Violin I"
      shortInstrumentName = "Vi I"
    } \relative c'' {
      a1 | R1*7 | \repeat unfold 12 a16 a4 |
    }
    \new Staff = "StaffViolinII" \with {
      instrumentName = "Violin II"
      shortInstrumentName = "Vi II"
    } \relative c' {
      e1 | R1*8 |
    }
  >>

  \new Staff = "Staff_cello" \with {
    instrumentName = "Cello"
    shortInstrumentName = "Ce"
  } \relative c {
    \clef bass \repeat unfold 9 { c1 } |
  }
  >>
>>
}

\layout {
  indent = 3.0\cm
  short-indent = 1.5\cm

  \context {
    \GrandStaff
    \consists Keep_alive_together_engraver
  }
  \context {
    \Staff
    \RemoveEmptyStaves
  }
}

```

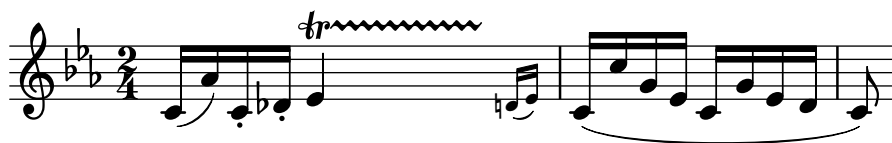
The image displays three systems of musical notation for a string quartet. Each system consists of four staves: Flute (Fl), Violin I (Vi I), Violin II (Vi II), and Cello (Ce). The time signature is common time (C). The first system shows a continuous melody for the Flute. The second and third systems show a trill for Violin I, which is extended in the third system. The Cello part consists of a single note in each system.

## Extending a trill spanner

For `TrillSpanner` grobs, the `minimum-length` property becomes effective only if the `set-spacing-rods` procedure is called explicitly.

To do this, the `springs-and-rods` property should be set to `ly:spanner::set-spacing-rods`.

```
\relative c' {
  \key c\minor
  \time 2/4
  c16( as') c,-. des-.
  \once\override TrillSpanner.minimum-length = #15
  \once\override TrillSpanner.springs-and-rods = #ly:spanner::set-spacing-rods
  \afterGrace es4\startTrillSpan { d16[(\stopTrillSpan es)] }
  c( c' g es c g' es d
  c8)
}
```



## Estendre glissandos sobre repeticions

Es pot simular un glissando que s'estén fins a l'interior de diversos blocs `\alternative` de primera i segona vegada mitjançant l'addició d'una nota d'adorn oculta amb un glissando al començament de cada bloc `\alternative`. La nota d'adorn ha d'estar a la mateixa alçada que la nota que dona inici al primer glissando., Això s'implementa aquí amb una funció musical que agafa com a argument l'altura de la nota d'adorn.

Observeu que a la música polifònica la nota d'adorn ha de coincidir amb les notes d'adorn corresponents en totes les altres veus.

```
repeatGliss = #(define-music-function (grace)
  (ly:pitch?)
  #{
    % the next two lines ensure the glissando is long enough
    % to be visible
    \once \override Glissando.springs-and-rods
      = #ly:spanner::set-spacing-rods
    \once \override Glissando.minimum-length = 3.5
    \once \hideNotes
    \grace $grace \glissando
  })

\score {
  \relative c' {
    \repeat volta 3 { c4 d e f\glissando }
    \alternative {
      { g2 d }
      { \repeatGliss f g2 e }
      { \repeatGliss f e2 d }
    }
  }
}

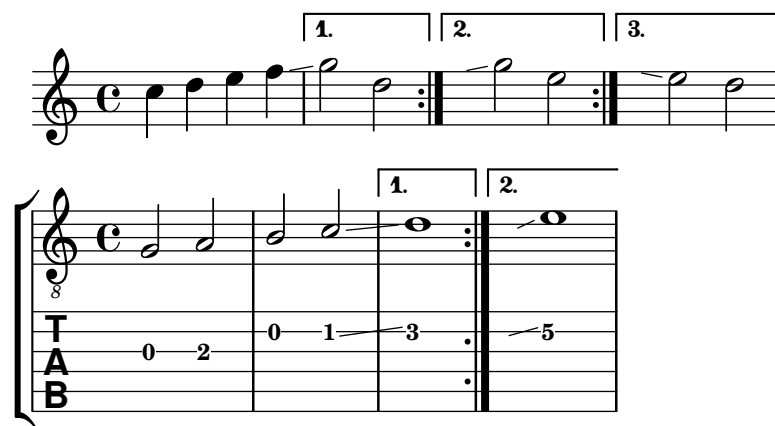
music = \relative c' {
  \voiceOne
  \repeat volta 2 {
    g a b c\glissando
  }
  \alternative {
    { d1 }
    { \repeatGliss c \once \omit StringNumber e1\2 }
  }
}

\score {
  \new StaffGroup <<
    \new Staff <<
      \new Voice { \clef "G_8" \music }
```

```

>>
\new TabStaff <<
  \new TabVoice { \clef "moderntab" \music }
>>
>>
}

```



## Flat ties

This snippet provides a function `flared-tie` to draw a tie that consist of straight lines. It is intended as a replacement for the default tie-drawing function (i.e., a replacement argument for the `stencil` property of the `Tie` grob).

The argument of `flared-tie` is a list of coordinate pairs that specify additional points between the first and last point to span up the tie's lines. The first and last point are identical to the original tie's start and end point, respectively. The X and Y coordinate values are multiples of the bounding box length and height of the original tie (also taking care of the tie's direction); consequently, the first point has coordinates (0,0), and the last point (1,0).

The function `flare-tie` defines a shorthand for a flat tie. Further tweaking of the shape is possible by overriding `Tie.details.height-limit` or with `\shape`. It is also possible to change the custom definition on the fly.

```

#(define ((flared-tie coords) grob)
  (define (pair-to-list pair)
    (list (car pair) (cdr pair)))

  (define (normalize-coords goods x y dir)
    (map
      (lambda (coord)
        (cons (* x (car coord)) (* y dir (cdr coord)))))
      goods))

  (define (my-c-p-s points thick)
    (make-connected-path-stencil points thick 1.0 1.0 #f #f))

  ;; Calling `ly:tie::print` and assigning its return value to a
  ;; variable in this outer `let` triggers LilyPond to position the
  ;; tie, allowing us to extract its extents. We only proceed,
  ;; however, if the tie doesn't get discarded (for whatever reason).
  (let ((sten (ly:tie::print grob)))
    (if (grob::is-live? grob)

```



```

(let* ((layout (ly:grob-layout grob))
      (line-thickness (ly:output-def-lookup layout
                                             'line-thickness))
      (thickness (ly:grob-property grob 'thickness 0.1))
      (used-thick (* line-thickness thickness))
      (dir (ly:grob-property grob 'direction))
      (xex (ly:stencil-extent sten X))
      (yex (ly:stencil-extent sten Y))
      (lenx (interval-length xex))
      (leny (interval-length yex))
      (xtrans (car xex))
      (ytrans (if (> dir 0)(car yex) (cdr yex)))
      ;; Add last point.
      (coord-list (append coords '((1.0 . 0.0))))
      (uplist
        (map pair-to-list
              (normalize-coords coord-list lenx (* leny 2) dir))))
      (ly:stencil-translate
        (my-c-p-s uplist used-thick)
        (cons xtrans ytrans)))
  '()))

% Define a default tie shape consisting of three straight lines.
#(define flare-tie
  (flared-tie '((0.1 . 0.3) (0.9 . 0.3))))

\relative c' {
  a4~ a
  \once \override Tie.stencil = #flare-tie
  a4~ a \break

  <a c e a c e a c e>~ q
  \once \override Tie.stencil = #flare-tie
  q~ q\break

  <>~\markup \small \typewriter "height-limit = 14"
  \override Tie.details.height-limit = 14
  a'4~ a
  \once \override Tie.stencil = #flare-tie
  a4~ a \break

  <>~\markup \small \typewriter "height-limit = 0.5"
  \override Tie.details.height-limit = 0.5
  a4~ a
  \once \override Tie.stencil = #flare-tie
  a4~ a \break

  \revert Tie.details.height-limit

  <>~\markup \small \typewriter
    "\shape #'((0 . 0) (0 . -1) (0 . -1) (0 . 0))"
  \shape #'((0 . 0) (0 . -1) (0 . -1) (0 . 0)) Tie

```

```

a4~ a
\once \override Tie.stencil = #flare-tie
\shape #'((0 . 0) (0 . -1) (0 . -1) (0 . 0)) Tie
a4~ a \break

<>~\markup \small \typewriter
      "#(flared-tie '((0.2 . 2) (0.5 . -3) (0.8 . 1)))"
\once \override Tie.stencil =
      #(flared-tie '((0.2 . 2) (0.5 . -3) (0.8 . 1)))
a4~ a
<>~\markup \small \typewriter
      "#(flared-tie '((0.5 . 2)))"
\once \override Tie.stencil = #(flared-tie '((0.5 . 2)))
a'4~ a
}

```

1

2

3 height-limit = 14

4 height-limit = 0.5

5 \shape #'((0 . 0) (0 . -1) (0 . -1) (0 . 0))

6

#(flared-tie '((0.2 . 2) (0.5 . -3) (0.8 . 1)))

#(flared-tie '((0.5 . 2)))

## Forcing measure width to adapt to a metronome mark's width

By default, metronome marks do not influence horizontal spacing. This can be solved through a simple override, as shown in the second half of the example.

```

example = {
  R1
  \tempo "Allegro molto" R1*6
}

```

```

\tempo "poco rit." R1*2
\tempo "a tempo" R1*8 \break
}

{
  \compressMMRests {
    \example
    \override Score.MetronomeMark.extra-spacing-width = #'(-3 . 0)
    \example
  }
}

\layout {
  ragged-right = ##t
}

```

The image shows two staves of musical notation. The first staff starts with a treble clef and a common time signature 'C'. It contains three measures: the first measure has a whole rest; the second measure has a half note with 'Allegro molto' above it and a metronome mark '6' below it; the third measure has a half note with 'poco rit.' above it and a metronome mark '2' below it. The second staff starts with a treble clef and a common time signature 'C'. It contains three measures: the first measure has a whole rest; the second measure has a half note with 'Allegro molto' above it and a metronome mark '6' below it; the third measure has a half note with 'poco rit.' above it and a metronome mark '2' below it. The fourth measure has a whole note with 'a tempo' above it and a metronome mark '8' below it. The number '18' is written to the left of the second staff.

## Glissando per sota d'una objecte gràfic

Els objectes gràfics de columna de nota (els grobs `NoteColumn`) poder ser sobrepassats pels glissandos.

```

\relative c' {
  a2 \glissando
  \once \override NoteColumn.glissando-skip = ##t
  f''4 d,
}

```

The image shows a single staff of musical notation with a treble clef and a common time signature 'C'. It contains three measures: the first measure has a whole note; the second measure has a half note; the third measure has a half note. A glissando line is drawn from the first measure to the third measure, passing over the notes.

## Harmonizing bar line thickness for staves with different sizes

When using `\magnifyStaff` only for some staves in a `StaffGroup`, `BarLine` grobs do not align any more due to its changed properties `thick-thickness`, `hair-thickness`, and `kern`.

To fix this, multiple workarounds are available, as demonstrated below.

```

\markuplist {
  % First row.
  \fill-line {
    \score {
      \new StaffGroup <<
        \new Staff \with { \magnifyStaff #1/2 } {
          \textMark \markup \tiny "default"

```

```

        b1 b \bar "|."
    }
    \new Staff { b b }
>>
}
\score {
    \new StaffGroup <<
        \new Staff \with { \magnifyStaff #1/2 } {
            \textMark \markup \tiny \column { "reverting only the"
                                                "final bar line" }

            b1 b
            \revert Staff.BarLine.thick-thickness
            \revert Staff.BarLine.hair-thickness
            \revert Staff.BarLine.kern
            \bar "|."
        }
        \new Staff { b b }
    >>
}
\score {
    \new StaffGroup <<
        \new Staff \with { \magnifyStaff #1/2
                            #(revert-props 'magnifyStaff 0
                                '((BarLine thick-thickness)
                                  (BarLine hair-thickness)
                                  (BarLine kern))) } {
            \textMark \markup \tiny \column { "cancelling"
                                                \typewriter "\magnifyStaff"
                                                "only for bar lines" }

            b1 b \bar "|."
        }
        \new Staff { b b }
    >>
}
}

\vspace #2

% Second row.
\fill-line {
    \score {
        \new StaffGroup <<
            \new Staff \with { \magnifyStaff #1/2 } {
                \textMark \markup \tiny \column { "mimicking"
                                                    \typewriter "\magnifyStaff"
                                                    "on the other staves" }

                b1 b \bar "|." }
            \new Staff \with { #(scale-props 'magnifyStaff 1/2 #t
                '((BarLine thick-thickness)
                  (BarLine hair-thickness)
                  (BarLine kern))) } {

                b b }
        >>
    }
}

```

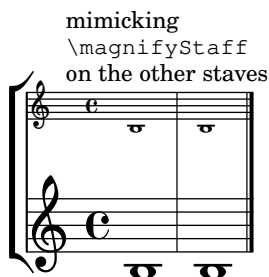
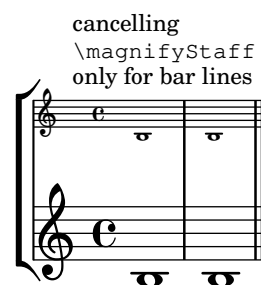
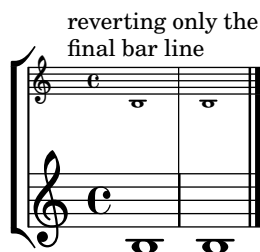
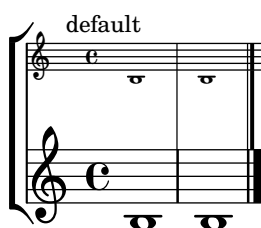
```

>>
}
\score {
  \new StaffGroup <<
    \new Staff \with { \magnifyStaff #1/2
      #(scale-props 'magnifyStaff 3/2 #t
        '((BarLine thick-thickness)
          (BarLine hair-thickness)
          (BarLine kern))) } {
      \textMark \markup \tiny \column { "applying an"
        "intermediate"
        "value to all staves" }

      b1 b \bar "|." }
    \new Staff \with { #(scale-props 'magnifyStaff 3/4 #t
      '((BarLine thick-thickness)
        (BarLine hair-thickness)
        (BarLine kern))) } {

      b b }
    >>
  }
  ""
}
}

```



## Incipit

En transcriure música mensural, és útil posar un incipit al començament de la peça per indicar la tonalitat i el compàs originals. Actualment els músics estan acostumats a les línies del pentagrama, però en el període de la música mensural encara no s'utilitzaven. Com a compromís, amb freqüència s'imprimeixen línies divisòries entre els pentagrames, un estil de disseny conegut com mensurstriche.

% A short excerpt from the Jubilate Deo by Orlande de Lassus

```

global = {
  \set Score.skipBars = ##t
  \key g \major
  \time 4/4

  % the actual music
  \skip 1*8

  % let finis bar go through all staves
  \override Staff.BarLine.transparent = ##f

  % finis bar
  \bar "|."
}

discantusIncipit = \new PetrucciStaff {
  \clef "petrucci-c1"
  \key f \major
  \time 2/2
  c'1.
}

discantusNotes = {
  \transpose c' c'' {
    \clef "treble"
    d'2. d'4 |
    b e' d'2 |
    c'4 e'4.( d'8 c' b |
    a4) b a2 |
    b4.( c'8 d'4) c'4 |
    \once \hide NoteHead
    c'1 |
    b\breve |
  }
}

discantusLyrics = \lyricmode {
  Ju -- bi -- la -- te De -- o,
  om -- nis ter -- ra, __ om-
  "...
  -us.
}

altusIncipit = \new PetrucciStaff {
  \clef "petrucci-c3"
  \key f \major
  \time 2/2
  e'1\rest f'1.
}

altusNotes = {

```

```

\transpose c' c'' {
  \clef "treble"
  r2 g2. e4 fis g |
  a2 g4 e |
  fis g4.( fis16 e fis4) |
  g1 |
  \once \hide NoteHead
  g1 |
  g\breve |
}
}

altusLyrics = \lyricmode {
  Ju -- bi -- la -- te
  De -- o, om -- nis ter -- ra,
  "...
  -us.
}

tenorIncipit = \new PetrucciStaff {
  \clef "petrucci-c4"
  \key f \major
  \time 2/2
  r\longa
  r\breve
  r1 c'1.
}

tenorNotes = {
  \transpose c' c' {
    \clef "treble_8"
    R1 |
    R1 |
    R1 |
    % two measures
    r2 d'2. d'4 b e' |
    \once \hide NoteHead
    e'1 |
    d'\breve |
  }
}

tenorLyrics = \lyricmode {
  Ju -- bi -- la -- te
  "...
  -us.
}

bassusIncipit = \new PetrucciStaff {
  % The original print shows the b flat
  % for the f major key signature twice.
  \override Staff.KeySignature.flat-positions = #'((-7 . 6))

```

```

\clef "mensural-f"
\key f\major
\time 2/2
\tweak Y-offset #1 r\longa \tweak Y-offset #1 r\longa
f1.
}

bassusNotes = {
  \transpose c' c' {
    \clef "bass"
    R1 |
    R1 |
    R1 |
    R1 |
    g2. e4 |
    \once \hide NoteHead
    e1 |
    g\breve |
  }
}

bassusLyrics = \lyricmode {
  Ju -- bi-
  "...
  -us.
}

\score {
  <<
  \new StaffGroup = choirStaff <<
    \new Voice = "discantusNotes" <<
      \set Staff.instrumentName = "Discantus"
      \incipit #1 \discantusIncipit
      \global
      \discantusNotes
    >>
    \new Lyrics \lyricsto discantusNotes { \discantusLyrics }
    \new Voice = "altusNotes" <<
      \set Staff.instrumentName = "Altus"
      \global
      \incipit #1 \altusIncipit
      \altusNotes
    >>
    \new Lyrics \lyricsto altusNotes { \altusLyrics }
    \new Voice = "tenorNotes" <<
      \set Staff.instrumentName = "Tenor"
      \global
      \incipit #1 \tenorIncipit
      \tenorNotes
    >>
    \new Lyrics \lyricsto tenorNotes { \tenorLyrics }
    \new Voice = "bassusNotes" <<

```



```

\set Staff.instrumentName = "Bassus"
\global
\incipit #1 \bassusIncipit
\bassusNotes
>>
\new Lyrics \lyricsto bassusNotes { \bassusLyrics }
>>
>>
\layout {
  \context {
    \Score
    %% no bar lines in staves or lyrics
    \hide BarLine
  }
  %% the next two instructions keep the lyrics between the bar lines
  \context {
    \Lyrics
    \consists "Bar_engraver"
    \consists "Separating_line_group_engraver"
  }
  \context {
    \Voice
    %% no slurs
    \hide Slur
    %% Comment in the below "\remove" command to allow line
    %% breaking also at those bar lines where a note overlaps
    %% into the next measure. The command is commented out in this
    %% short example score, but especially for large scores, you
    %% will typically yield better line breaking and thus improve
    %% overall spacing if you comment in the following command.
    %%\remove "Forbid_line_break_engraver"
  }
  indent = 5\cm
  incipit-width = 2.5\cm
}
}

```

Discantus

Altus

Tenor

Bassus

Ju - bi - la - te De - o, om -

Ju - bi - la - te De - o, om -

## Inserir fragments de partitures a sobre del pentagrama com elements de marcatge

L'ordre `\markup` és molt versàtil. En aquest fragment de codi, hi ha un bloc `\score` amb una partitura completa en comptes de textos o altra marcatge.

```
tuning = \markup \score {
  \new Staff \with { \remove "Time_signature_engraver" }
  {
    \clef bass
    <c, g, d g>1
  }
  \layout {
    indent = 0\cm
  }
}

\header {
  title = "Solo Cello Suites"
  subtitle = "Suite IV"
  subsubtitle = \markup { Originalstimmung: \raise #0.5 \tuning }
  tagline = ##f
}

\layout {
  ragged-right = ##f
}

\relative c' {
  \time 4/8
  \tuplet 3/2 { c8 d e } \tuplet 3/2 { c d e }
  \tuplet 3/2 { c8 d e } \tuplet 3/2 { c d e }
  g8 a g a
  g8 a g a
}
```

## Solo Cello Suites

### Suite IV

Originalstimmung: 



### Let TabStaff print the topmost string at bottom

In tablatures, the first string is usually printed topmost. If you want to have it at the bottom, set the `stringOneTopmost` context property to `##f`. For a context-wide setting this could be done in the `\layout` block as well.

```
%\layout {
% \context {
%   \Score
%   stringOneTopmost = ##f
% }
% \context {
%   \TabStaff
%   tablatureFormat = #fret-letter-tablature-format
% }
%}

m = {
  \cadenzaOn
  e, b, e gis! b e'
  \bar "||"
}

<<
\new Staff {
  \clef "G_8"
  <>_"default" \m
  <>_"italian (historic)"\m
}
\new TabStaff
{
  \m
  \set Score.stringOneTopmost = ##f
  \set TabStaff.tablatureFormat = #fret-letter-tablature-format
  \m
}
>>
```

## Donar format a tabulatures amb lletres

Es pot donar format a la tabulatura usant lletres en comptes de nombres.

```
music = \relative c {
  c4 d e f
  g4 a b c
  d4 e f g
}

<<
  \new Staff {
    \clef "G_8"
    \music
  }
  \new TabStaff \with {
    tablatureFormat = #fret-letter-tablature-format
  } {
    \music
  }
>>
```

## Making glissandi breakable

Si s'ajusta la propietat `breakable` al valor `#t` en combinació amb `after-line-breaking`, podem fer que un glissando es divideixi en el salt de línia:

```
glissandoSkipOn = {
  \override NoteColumn.glissando-skip = ##t
  \hide NoteHead
  \override NoteHead.no-ledgers = ##t
}
```

```
music = {
  \repeat unfold 16 f8 |
  f1\glissando |
  a4 r2. |
  \repeat unfold 16 f8 |
}
```

```

f1\glissando \once\glissandoSkipOn |
a2 a4 r4 |
\repeat unfold 16 f8
}

\relative c'' {
  <>^\markup { \typewriter Glissando.breakable
               set to \typewriter "#t" }
  \override Glissando.breakable = ##t
  \override Glissando.after-line-breaking = ##t
  \music
}

\relative c'' {
  <>^\markup { \typewriter Glissando.breakable not set }
  \music
}

\paper {
  line-width = 100\mm
}

```

The image displays two musical staves illustrating the effect of the `Glissando.breakable` property. The first staff, labeled "Glissando.breakable set to #t", shows a glissando on a single staff with a repeat sign. The second staff, labeled "Glissando.breakable not set", shows a glissando on a single staff with a repeat sign. The first example is on a single staff, and the second example is on a single staff. The first example is on a single staff, and the second example is on a single staff.

## Fer unes línies del pentagrama més gruixudes que les altres

Es pot fer una línia de pentagrama més gruixuda amb fins pedagògics (per exemple la tercera línia o la de la clau de sol). Això es pot aconseguir afegint més línies molt a prop de la línia que es vol destacar, utilitzant la propietat `line-positions` de l'objecte `StaffSymbol`.

```

{
  \override Staff.StaffSymbol.line-positions =
    #'(-4 -2 -0.2 0 0.2 2 4)
}

```

```
d'4 e' f' g'
}
```



## Measure counters

This snippet demonstrates the use of the `Measure_counter_engraver` to number groups of successive measures. Any stretch of measures may be numbered, whether consisting of repetitions or not.

The engraver must be added to the appropriate context. Here, a `Staff` context is used; another possibility is a `Dynamics` context.

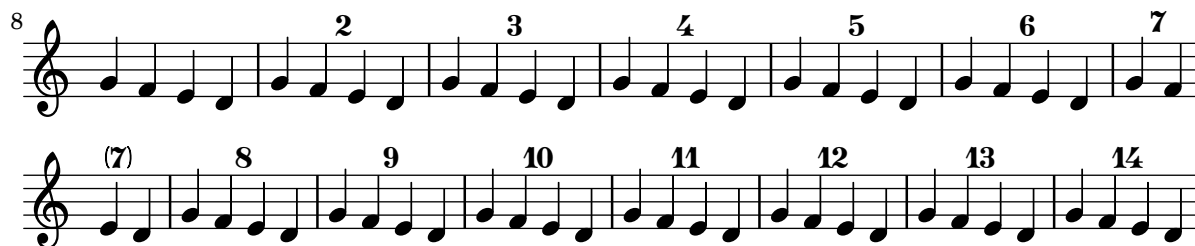
The counter is begun with `\startMeasureCount` and ended with `\stopMeasureCount`. Numbering will start by default with 1, but this behavior may be modified by overriding the `count-from` property.

When a measure extends across a line break, the number will appear twice, the second time in parentheses.

```
\layout {
  \context {
    \Staff
    \consists #Measure_counter_engraver
  }
}

\new Staff {
  \startMeasureCount
  \repeat unfold 7 {
    c'4 d' e' f'
  }
  \stopMeasureCount
  \bar "||"
  g'4 f' e' d'
  \override Staff.MeasureCounter.count-from = #2
  \startMeasureCount
  \repeat unfold 5 {
    g'4 f' e' d'
  }
  g'4 f'
  \bar ""
  \break
  e'4 d'
  \repeat unfold 7 {
    g'4 f' e' d'
  }
  \stopMeasureCount
}
```





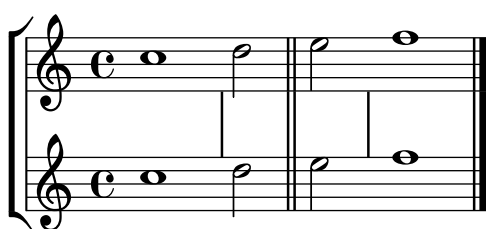
## Disposició Mensurstriche (línies divisòries entre pentagrames)

La disposició «mensurstriche» en els quals les línies divisòries no estan dibuixades sobre els pentagrames, sinó entre ells, es pot aconseguir amb un `StaffGroup` en comptes d'un `ChoirStaff`. La línia divisòria sobre els pentagrames s'esborra usant `\hide`.

```
\layout {
  \context {
    \Staff
    measureBarType = "-span|"
  }
}
```

```
music = \fixed c'' {
  c1
  d2 \section e2
  f1 \fine
}
```

```
\new StaffGroup <<
  \new Staff \music
  \new Staff \music
>>
```



## Modifying the ottava spanner slope

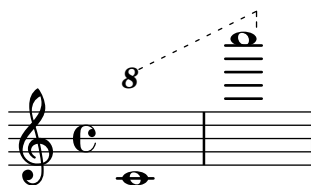
It is possible to change the slope of the ottava spanner.

```
\relative c'' {
  \override Staff.OttavaBracket.stencil = #ly:line-spanner::print
  \override Staff.OttavaBracket.bound-details =
    #`((left . ((Y . 0)
      (attach-dir . ,LEFT)
      (padding . 0)
      (stencil-align-dir-y . ,CENTER)))
    (right . ((Y . 5.0) ; Change the number here
      (padding . 0)
      (attach-dir . ,RIGHT)
      (text . ,(make-draw-dashed-line-markup
```

```

                                (cons 0 -1.2))))))
\override Staff.OttavaBracket.left-bound-info =
  #ly:horizontal-line-spanner::calc-left-bound-info-and-text
\override Staff.OttavaBracket.right-bound-info =
  #ly:horizontal-line-spanner::calc-right-bound-info
\ottava 1
c1
c'''1
}

```



## Niuat de grups de pentagrames

Es pot utilitzar la propietat `systemStartDelimiterHierarchy` per crear grups de pentagrames niuats de forma més complexa. L'ordre `\set StaffGroup.systemStartDelimiterHierarchy` pren una llista alfabètic del nombre de pentagrames produïts. Es pot proporcionar abans de cada pentagrama un delimitador de començament del sistema. Es pot envoltar entre corxets i admetre tants pentagrames com envoltin els corxets. Es poden ometre els elements de la llista, però el primer corxet sempre abasta tots els pentagrames. Les possibilitats són `SystemStartBar`, `SystemStartBracket`, `SystemStartBrace` i `SystemStartSquare`.

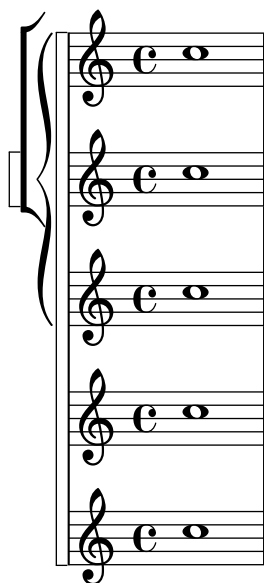
```

\new StaffGroup
\relative c' ' <<
  \override StaffGroup.SystemStartSquare.collapse-height = 4
  \set StaffGroup.systemStartDelimiterHierarchy
    = #'(SystemStartSquare
          (SystemStartBrace
            (SystemStartBracket a
              (SystemStartSquare b))
            c)
          d)

  \new Staff { c1 }
  \new Staff { c1 }
  \new Staff { c1 }
  \new Staff { c1 }
  \new Staff { c1 }
>>

```





## Armadures de tonalitat no tradicional

La molt utilitzada ordre `\key` estableix la propietat `keyAlterations`, dins del context `Staff`.

Per crear armadures de tonalitat no estàndard, ajusteu aquesta propietat directament. El format d'aquesta ordre és una llista:

`\set Staff.keyAlterations = #`(((octava . pas) . alteració)` on, per cada element dins de la llista `octava` especifica l'octava (sent zero l'octava des del Do central fins al Si per sobre), `pas` especifica la nota dins de l'octava (zero significa Do i 6 significa Si), i `alteració` és `,SHARP`, `,FLAT`, `,DOUBLE-SHARP` etc. (observeu la coma precedent).

De forma alternativa, per a cada element de la llista l'ús del format més concís (`pas . alteració`) especifica que la mateixa alteració ha d'estar en totes les octaves.

Vet aquí un exemple d'una possible armadura per generar una escala exàtona:

```
\include "arabic.ly"
```

```
\relative do' {
  \set Staff.keyAlterations = #`((0 . ,SEMI-FLAT)
                                (1 . ,SEMI-FLAT)
                                (2 . ,FLAT)
                                (5 . ,FLAT)
                                (6 . ,SEMI-FLAT))

  % \set Staff.extraNatural = ##f
  re reb \down reb resd
  dod dob dosd \down dob |
  dobsb dods do do |
}
```



## Plantilla d'orquestra amb cor i piano

Aquesta plantilla mostra l'ús de contextos `StaffGroup` i `GrandStaff` niuats per sub-agrupar instruments del mateix tipus, i una forma d'usar `\transpose` de manera que unes variables continguin la música per a instruments transpositors en afinació de concert.

```

#(set-global-staff-size 17)

\paper {
  indent = 3.0\cm % add space for instrumentName
  short-indent = 1.5\cm % add less space for shortInstrumentName
}

fluteMusic = \relative c' { \key g \major g'1 b }

% Pitches as written on a manuscript for Clarinet in A
% are transposed to concert pitch.
clarinetMusic = \transpose c' a
  \relative c' { \key bes \major bes1 d }

trumpetMusic = \relative c { \key g \major g'1 b }

% Key signature is often omitted for horns
hornMusic = \transpose c' f
  \relative c { d'1 fis }

percussionMusic = \relative c { \key g \major g1 b }

sopranoMusic = \relative c' { \key g \major g'1 b }
sopranoLyrics = \lyricmode { Lyr -- ics }

altoIMusic = \relative c' { \key g \major g'1 b }
altoILyrics = \sopranoLyrics
altoIIMusic = \relative c' { \key g \major g'1 b }
altoIILyrics = \lyricmode { Ah -- ah }

tenorMusic = \relative c' { \clef "treble_8" \key g \major g1 b }
tenorLyrics = \sopranoLyrics

pianoRHMus = \relative c { \key g \major g'1 b }
pianoLHMus = \relative c { \clef bass \key g \major g1 b }

violinIMusic = \relative c' { \key g \major g'1 b }
violinIIMusic = \relative c' { \key g \major g'1 b }

violaMusic = \relative c { \clef alto \key g \major g'1 b }

celloMusic = \relative c { \clef bass \key g \major g1 b }

bassMusic = \relative c { \clef "bass_8" \key g \major g,1 b }

\book {
  \score {

```

```

<<
\new StaffGroup = "StaffGroup_woodwinds" <<
  \new Staff = "Staff_flute" \with { instrumentName = "Flute" }
    \fluteMusic

  \new Staff = "Staff_clarinet" \with {
    instrumentName = \markup { \concat { "Clarinet in B" \flat } }
  }
  % Declare that written Middle C in the music
  % to follow sounds a concert B flat, for
  % output using sounded pitches such as MIDI.
  %\transposition bes

  % Print music for a B-flat clarinet
  \transpose bes c' \clarinetMusic
>>

\new StaffGroup = "StaffGroup_brass" <<
  \new Staff = "Staff_hornI" \with {
    instrumentName = "Horn in F"
  }
  % \transposition f
  \transpose f c' \hornMusic

  \new Staff = "Staff_trumpet" \with {
    instrumentName = "Trumpet in C"
  }
  \trumpetMusic
>>

\new RhythmicStaff = "RhythmicStaff_percussion" \with {
  instrumentName = "Percussion"
}
\percussionMusic

\new PianoStaff \with {
  instrumentName = "Piano"
} <<
  \new Staff { \pianoRHMusical }
  \new Staff { \pianoLHMusical }
>>

\new ChoirStaff = "ChoirStaff_choir" <<
  \new Staff = "Staff_soprano" \with {
    instrumentName = "Soprano"
  }
  \new Voice = "soprano" \sopranoMusical
  \new Lyrics \lyricsto "soprano" { \sopranoLyrics }

  \new GrandStaff = "GrandStaff_alto" \with {
    \accepts Lyrics
  } <<

```

```

\new Staff = "Staff_altoI" \with {
  instrumentName = "Alto I"
}
\new Voice = "altoI"
\altoIMusic
\new Lyrics \lyricsto "altoI" { \altoILyrics }
\new Staff = "Staff_altoII" \with {
  instrumentName = "Alto II"
}
\new Voice = "altoII"
\altoIIMusic
\new Lyrics \lyricsto "altoII" { \altoIILyrics }
>>

\new Staff = "Staff_tenor" \with {
  instrumentName = "Tenor"
}
\new Voice = "tenor" \tenorMusic
\new Lyrics \lyricsto "tenor" { \tenorLyrics }
>>

\new StaffGroup = "StaffGroup_strings" <<
  \new GrandStaff = "GrandStaff_violins" <<
    \new Staff = "Staff_violinI" \with {
      instrumentName = "Violin I"
    }
    \violinIMusic
    \new Staff = "Staff_violinII" \with {
      instrumentName = "Violin II"
    }
    \violinIIMusic
  >>
>>

\new Staff = "Staff_viola" \with {
  instrumentName = "Viola"
}
\violaMusic

\new Staff = "Staff_cello" \with {
  instrumentName = "Cello"
}
\celloMusic

\new Staff = "Staff_bass" \with {
  instrumentName = "Double Bass"
}
\bassMusic
>>
>>
}
}

```

Flute

Clarinet in B $\flat$

Horn in F

Trumpet in C

Percussion

Piano

Soprano

Alto I

Alto II

Tenor

Violin I

Violin II

Viola

Cello

Double Bass

Lyr - ics

Lyr - ics

Ah - ah

Lyr - ics

8

8

Detailed description: This is a musical score for a symphony orchestra and vocal soloists. The score is written for a full orchestra, including woodwinds (Flute, Clarinet in B-flat, Horn in F, Trumpet in C), percussion, piano, and strings (Violin I, Violin II, Viola, Cello, Double Bass). There are also four vocal soloists: Soprano, Alto I, Alto II, and Tenor. The music is in 2/4 time, with a key signature of one sharp (F#). The Soprano part has lyrics 'Lyr - ics'. The Alto I and Alto II parts also have lyrics 'Lyr - ics'. The Alto II part has a vocalization 'Ah - ah'. The Tenor part has lyrics 'Lyr - ics'. The piano part is written for both hands. The string parts are written for Violin I, Violin II, Viola, Cello, and Double Bass. There are two measures of music shown, with a repeat sign at the end of the first measure. The number '8' is written below the Tenor and Double Bass staves.

## Print chord names with same root and different bass as slash and bass note

To print subsequent ChordNames only differing in its bass note as slash and bass note, use the Scheme engraver defined in this snippet. The behaviour may be controlled in detail by the chordChanges context property.

```
#(define Bass_changes_equal_root_engraver
  (lambda (ctx)
    "For sequential `ChordNames` with the same root but a different bass,
    the root markup is dropped: D D/C D/B -> D /C /B.
    The behaviour may be controlled by setting the `chordChanges` context
    property."
    (let ((chord-pitches '())
          (last-chord-pitches '())
          (bass-pitch #f))
      (make-engraver
        ((initialize this-engraver)
         (let ((chord-note-namer (ly:context-property ctx
                                                    'chordNoteNamer)))
           ;; Set 'chordNoteNamer, respect user setting if already done
           (ly:context-set-property! ctx 'chordNoteNamer
                                     (if (procedure? chord-note-namer)
                                         chord-note-namer
                                         note-name->markup))))
          (listeners
            ((note-event this-engraver event)
             (let* ((pitch (ly:event-property event 'pitch))
                    (pitch-name (ly:pitch-notename pitch))
                    (pitch-alt (ly:pitch-alteration pitch))
                    (bass (ly:event-property event 'bass #f))
                    (inversion (ly:event-property event 'inversion #f)))
               ;; Collect notes of the chord
               ;; - to compare inversed chords we need to collect the
               ;;   bass note as usual member of the chord, whereas an
               ;;   added bass must be treated separate from the usual
               ;;   chord-notes
               ;; - notes are stored as pairs containing their
               ;;   pitch-name (an integer), i.e. disregarding their
               ;;   octave and their alteration
               (cond (bass (set! bass-pitch pitch))
                     (inversion
                      (set! bass-pitch pitch)
                      (set! chord-pitches
                           (cons (cons pitch-name pitch-alt)
                                 chord-pitches)))
                     (else
                      (set! chord-pitches
                           (cons (cons pitch-name pitch-alt)
                                 chord-pitches)))))))
            (acknowledgers
              ((chord-name-interface this-engraver grob source-engraver)
```

```

(let ((chord-changes (ly:context-property ctx
                                           'chordChanges #f)))
  ;; If subsequent chords are equal apart from their bass,
  ;; reset the 'text-property.
  ;; Equality is done by comparing the sorted lists of this
  ;; chord's elements and the previous chord. Sorting is
  ;; needed because inverted chords may have a different
  ;; order of pitches. `chord-changes` needs to be true.
  (if (and bass-pitch
            chord-changes
            (equal?
              (sort chord-pitches car<)
              (sort last-chord-pitches car<)))
      (ly:grob-set-property!
        grob 'text
        (make-line-markup
          (list
            (ly:context-property ctx 'slashChordSeparator)
            (ly:context-property ctx 'chordNoteNamer)
            bass-pitch
            (ly:context-property ctx
                                  'chordNameLowercaseMinor))))))
    (set! last-chord-pitches chord-pitches)
    (set! chord-pitches '())
    (set! bass-pitch #f))))

((finalize this-engraver)
 (set! last-chord-pitches '()))))

myChords = \chordmode {
  % \germanChords

  \set chordChanges = ##t
  d2:m d:m/cis

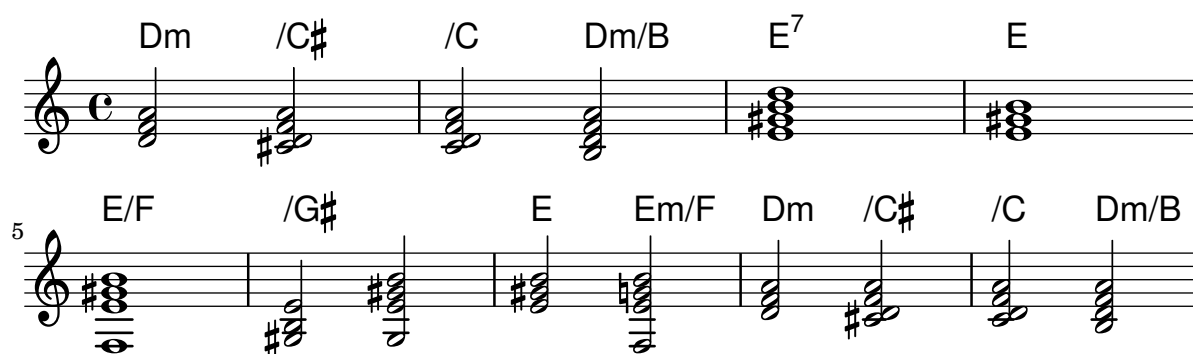
  d:m/c
  \set chordChanges = ##f
  d:m/b

  e1:7
  \set chordChanges = ##t
  e
  \break

  \once \set chordChanges = ##f
  e1/f
  e2/gis e/+gis e e:m/f d:m d:m/cis d:m/c
  \set chordChanges = ##f
  d:m/b
}

```

```
<<
\new ChordNames
  \with { \consists #Bass_changes_equal_root_engraver }
  \myChords
\new Staff \myChords
>>
```



## Posar lletra dins del pentagrama

Es poden moure les línies de lletra verticalment per imprimir-les dins del pentagrama. Les lletres es mouen amb `\override LyricText.extra-offset = #'(0 . dy)` i hi ha instruccions per moure les línies d'extensió i els guions. El desplaçament necessari s'estableix mitjançant un procés d'assaig i error.

```
<<
\new Staff <<
  \new Voice = "voc" \relative c' { \stemDown a bes c8 b c4 }
>>
\new Lyrics \with {
  \override LyricText.extra-offset = #'(0 . 8.6)
  \override LyricExtender.extra-offset = #'(0 . 8.6)
  \override LyricHyphen.extra-offset = #'(0 . 8.6)
} \lyricsto "voc" { La la -- la _ _ la }
>>
```



## Citació d'una altra veu

La propietat `quotedEventTypes` determina els tipus d'esdeveniments musicals que resulten citats. El valor predeterminat és `(note-event rest-event tie-event beam-event tuplet-span-event)`, que significa que sols apareixen en l'expressió `\quoteDuring` les notes, silencis, lligadures, barres i grups especials. A l'exemple següent, el silenci de semicorxera no apareix en el fragment citat perquè `rest-event` no està dins `quotedEventTypes`.

Per veure una llista dels tipus d'esdeveniment, consulteu la secció “Music classes” de la Referència de funcionament intern.

```
quoteMe = \relative c' {
  fis4 r16 a8.-> b4\ff c
}
```



```

\addQuote quoteMe \quoteMe

original = \relative c'' {
  c8 d s2
  \once \override NoteColumn.ignore-collision = ##t
  es8 gis8
}

<<
  \new Staff \with { instrumentName = "quoteMe" }
  \quoteMe

  \new Staff \with { instrumentName = "orig" }
  \original

  \new Staff \with {
    instrumentName = "orig+quote"
    quotedEventTypes = #'(note-event articulation-event)
  }
  \relative c''
  <<
    \original
    \new Voice {
      s4
      \set fontSize = #-4
      \override Stem.length-fraction = #(magstep -4)
      \quoteDuring "quoteMe" { \skip 2. }
    }
  >>
>>

```

## Citació d'una altra veu amb transposició

Els passatges citats tenen en compte la transposició de la font tant com la del destí. En aquest exemple, tots els instruments interpreten una nota amb el so de Do central; el destí d'un instrument transpositor en Fa. La part de destí es pot transportar utilitzant `\transpose`. En aquest cas les notes citades romanen sense canvis.

```

\addQuote clarinet {
  \transposition bes
  \repeat unfold 8 { d'16 d' d'8 }
}

```

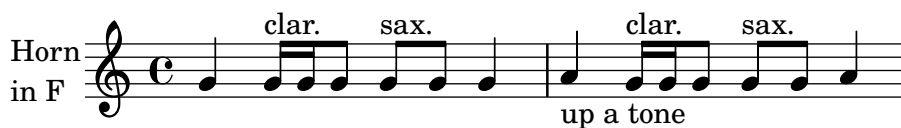
```

\addQuote sax {
  \transposition es'
  \repeat unfold 16 { a8 }
}

quoteTest = {
  % french horn
  \transposition f
  g'4
  << \quoteDuring "clarinet" { \skip 4 } s4^"clar." >>
  << \quoteDuring "sax" { \skip 4 } s4^"sax." >>
  g'4
}

{
  \new Staff \with {
    instrumentName = \markup { \column { Horn "in F" } }
  }
  \quoteTest
  \transpose c' d' << \quoteTest s4_"up a tone" >>
}

```



## Removing brace on first line of piano score

This snippet removes the first brace from a PianoStaff or a GrandStaff, together with the clefs. It may be useful when cutting and pasting the engraved image into existing music.

The code uses `\alterBroken` to hide the brace delimiter at the beginning.

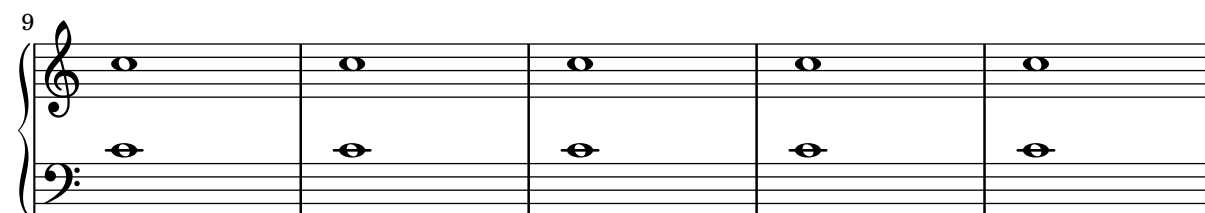
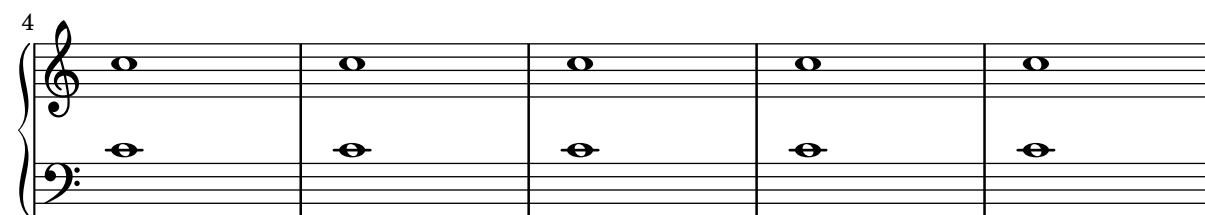
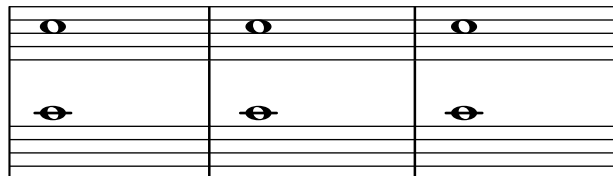
```

someMusic = {
  \once \omit Staff.Clef
  \once \omit Staff.TimeSignature
  \repeat unfold 3 c1 \break
  \repeat unfold 5 c1 \break
  \repeat unfold 5 c1
}

\score {
  \new PianoStaff
  <<
    \new Staff = "right" \relative c' { \someMusic
    \new Staff = "left" \relative c' { \clef F \someMusic }
  >>
  \layout {
    indent=75\mm
    \context {
      \PianoStaff
      \alterBroken transparent #'(#t) SystemStartBrace
    }
  }
}

```

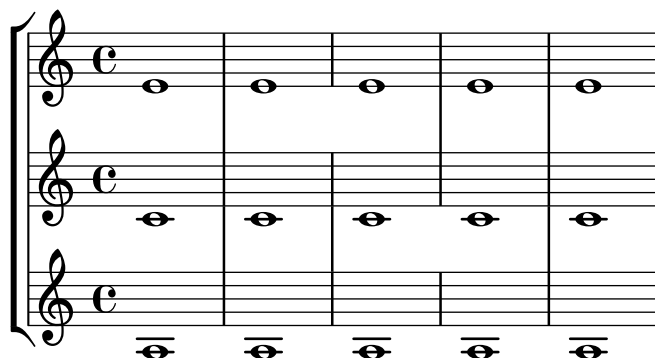
}



## Treure les barres de compàs entre els pentagrames d'un StaffGroup PianoStaff o GrandStaff

De forma predeterminada, les línies divisòries als grups StaffGroup, PianoStaff o GrandStaff es connecten entre els pentagrames. Es pot alterar aquest comportament pentagrama a pentagrama.

```
\relative c' {
  \new StaffGroup <<
    \new Staff {
      e1 | e
      \once \override Staff.BarLine.allow-span-bar = ##f
      e1 | e | e
    }
    \new Staff {
      c1 | c | c
      \once \override Staff.BarLine.allow-span-bar = ##f
      c1 | c
    }
    \new Staff {
      a1 | a | a | a | a
    }
  >>
}
```



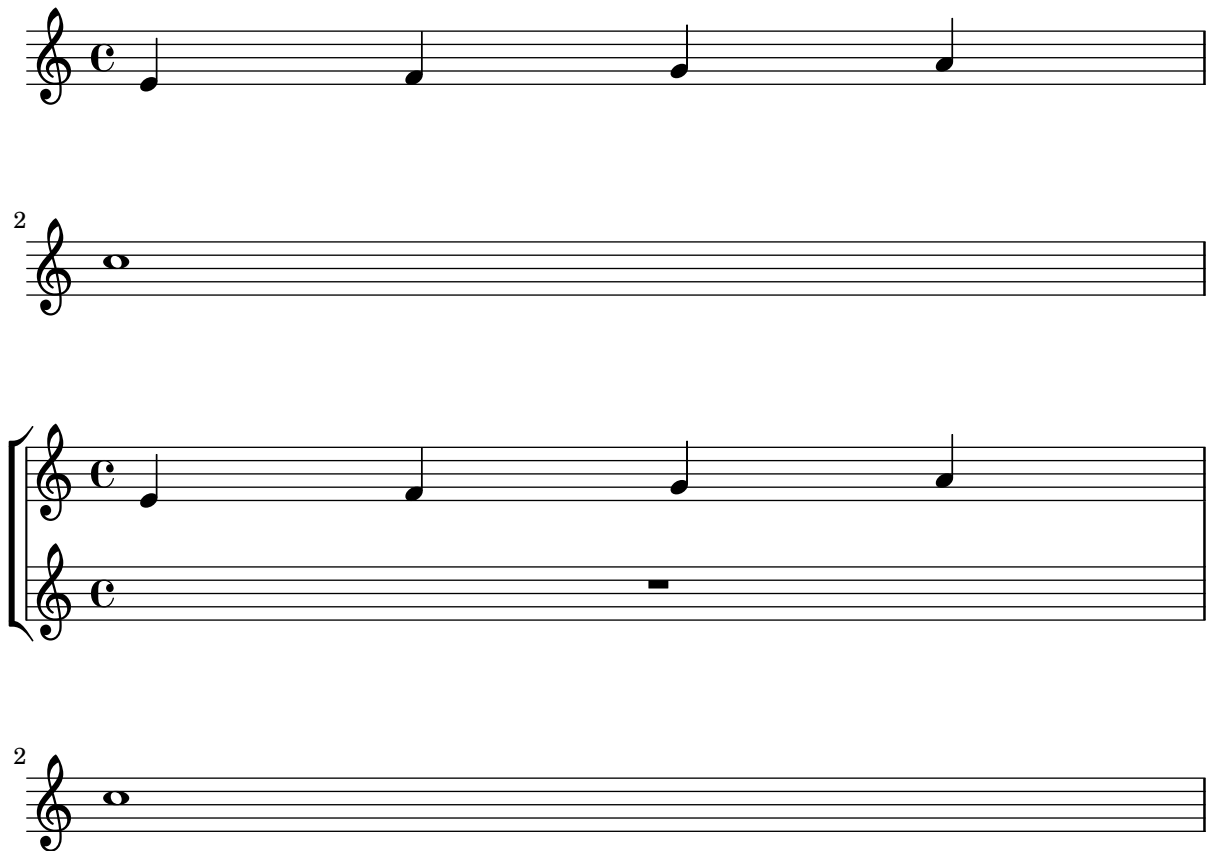
## Supressió de la primera línia buida

El primer pentagrama buit també es pot suprimir de la partitura establint la propietat `remove-first` de `VerticalAxisGroup`. Això es pot fer globalment dins del bloc `\layout`, o localment dins del pentagrama concret que es vol suprimir. En aquest últim cas, hem d'especificar el context (`Staff` s'aplica sols al pentagrama actual) davant de la propietat.

El pentagrama inferior del segon grup no s'elimina, perquè l'ajustament sols s'aplica al pentagrama concret dins del que s'escriu.

```
\layout {
  \context {
    \Staff \RemoveEmptyStaves
    % To use the setting globally, uncomment the following line:
    % \override VerticalAxisGroup.remove-first = ##t
  }
}
\new StaffGroup <<
  \new Staff \relative c' {
    e4 f g a \break
    c1
  }
  \new Staff {
    % To use the setting globally, comment this line,
    % uncomment the line in the \layout block above
    \override Staff.VerticalAxisGroup.remove-first = ##t
    R1 \break
    R
  }
>>
```

```
\new StaffGroup <<
  \new Staff \relative c' {
    e4 f g a \break
    c1
  }
  \new Staff {
    R1 \break
    R
  }
>>
```



## Fixació d'un separador entre els sistemes

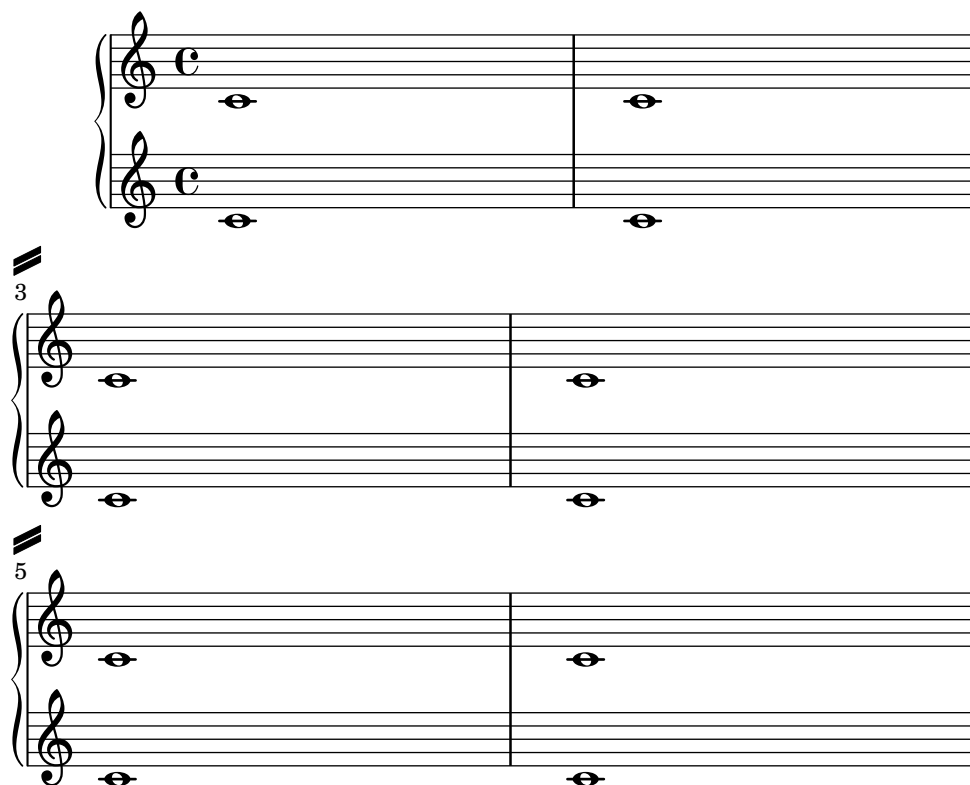
Es poden inserir separadors de sistema entre els sistemes d'una pàgina. Es pot usar qualsevol element de marcatge, però hi ha `\slashSeparator` com una elecció predeterminada adequada.

```
#(set-default-paper-size "a5")

\paper {
  system-separator-markup = \slashSeparator
  tagline = ##f
}

notes = \relative c' {
  c1 | c \break
  c1 | c \break
  c1 | c
}

\book {
  \score {
    \new GrandStaff <<
      \new Staff \notes
      \new Staff \notes
    >>
  }
}
```



## Shape individual ties in chords

To shape individual ties in chords use the method demonstrated below.

```
{
  \textMark "Chords can be tied note by note."
  <c'~ e'~ g'~ c''~>2 q
}

{
  \textMark \markup \override #'(baseline-skip . 3) \wordwrap {
    Modifying those ties with \typewriter "\\shape" does not succeed,
    because \typewriter TieColumn positions them on its own behalf,
    ignoring \typewriter "\\shape" input more or less. You may
    circumvent this by setting \typewriter positioning-done to
    \typewriter "#t" -- alas, \typewriter positioning-done is an
    internal property, and setting it to \typewriter "#t" means: all
    positioning is done, don't do anything further. The next example
    demonstrates a case where the positioning is not finished: all tie
    directions are down, and the thickness is not accurate.
  }
  <c'~ e'~ g'~ c''~>2
  \once \override TieColumn.positioning-done = ##t
  q
}

{
  \textMark "To fix that, enter ties with explicit direction modifiers."
  <c'_~ e'_~ g'_~ c''^~>2
  \once \override TieColumn.positioning-done = ##t
}
```

```

q
}

{
  \textMark \markup {
    Now you can use \typewriter "\\shape" for each tie as usual. }
  <c'-\shape #'((0 . 0) (0 . -10) (0 . -10) (0 . 0)) _~
  e'-\shape #'((0 . 0) (0 . -5) (0 . -5) (0 . 0)) _~
  g'-\shape #'((0 . 0) (0 . -2) (0 . -2) (0 . 0)) _~
  c''-\shape #'((0 . 0) (0 . 5) (0 . 5) (0 . 0)) ^~
  >2
  \once \override TieColumn.positioning-done = ##t
  q
}

{
  \textMark "This also works at line breaks."
  <c'-\shape #'(((0 . 0) (0 . -10) (0 . -10) (0 . 0))
    ((0 . 0) (0 . -10) (0 . -10) (0 . 0))) _~
  e'-\shape #'(((0 . 0) (0 . -5) (0 . -5) (0 . 0))
    ((0 . 0) (0 . -5) (0 . -5) (0 . 0))) _~
  g'-\shape #'(((0 . 0) (0 . -2) (0 . -2) (0 . 0))
    ((0 . 0) (0 . -2) (0 . -2) (0 . 0))) _~
  c''-\shape #'(((0 . 0) (0 . 5) (0 . 5) (0 . 0))
    ((0 . 0) (0 . 5) (0 . 5) (0 . 0))) ^~
  >2
  \break
  \once \override TieColumn.positioning-done = ##t
  q
}

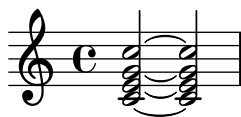
{
  \textMark \markup {
    It also works with the \typewriter tieWaitForNote property. }
  \set tieWaitForNote = ##t
  c'4-\shape #'((0 . 0) (0 . -10) (0 . -10) (0 . 0)) _~
  e'-\shape #'((0 . 0) (0 . -5) (0 . -5) (0 . 0)) _~
  g'-\shape #'((0 . 0) (0 . -2) (0 . -2) (0 . 0)) _~
  c''-\shape #'((0 . 0) (0 . 5) (0 . 5) (0 . 0)) ^~
  \once \override TieColumn.positioning-done = ##t
  <c' e' g' c''>1
}

\layout {
  indent = 0
  \context {
    \Score
    \override TextMark.padding = #4
    \override TextMark.break-align-symbols = #'(left-edge)
  }
}

```

```
\paper {
  score-system-spacing.padding = 3
}
```

Chords can be tied note by note.



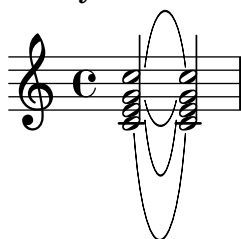
Modifying those ties with `\shape` does not succeed, because `TieColumn` positions them on its own behalf, ignoring `\shape` input more or less. You may circumvent this by setting `positioning-done` to `#t` – alas, `positioning-done` is an internal property, and setting it to `#t` means: all positioning is done, don't do anything further. The next example demonstrates a case where the positioning is not finished: all tie directions are down, and the thickness is not accurate.



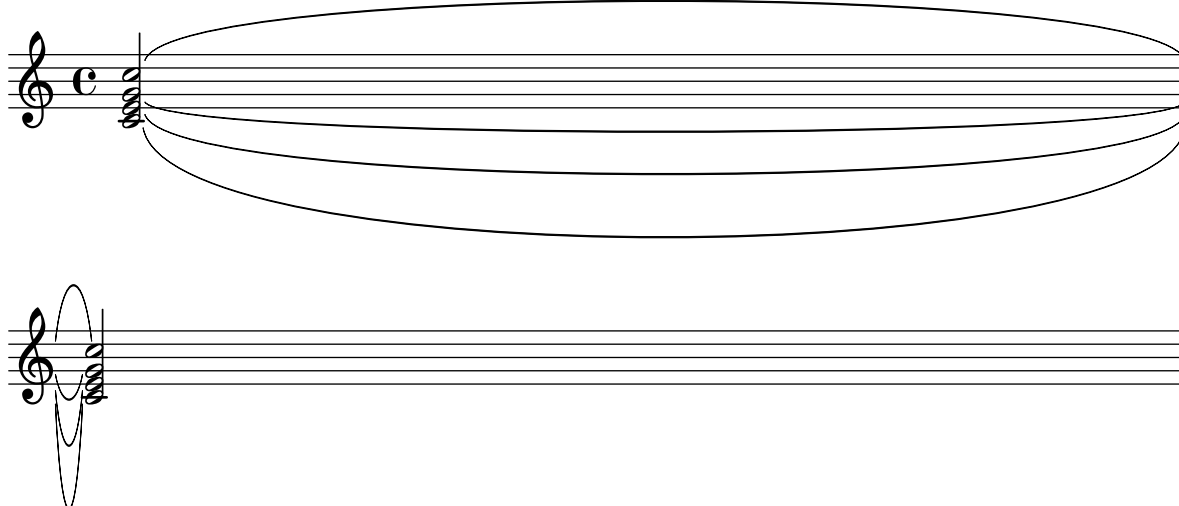
To fix that, enter ties with explicit direction modifiers.



Now you can use `\shape` for each tie as usual.

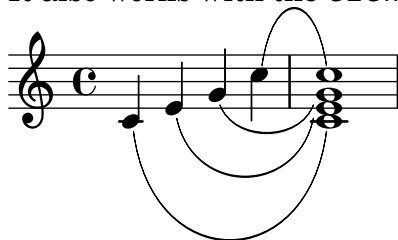


This also works at line breaks.





It also works with the `tieWaitForNote` property.



## Barres de compàs en forma de ratlla curta

Freqüentment, s'usen barres de compàs en forma de 'tick' o ratlla curta on la línia divisòria s'emplea sols a efectes de coordinació i no es vol impliar amb ella cap èmfasi ritmic.

```
\relative c' {
  \set Score.measureBarType = #""
  c4 d e f
  g4 f e d
  c4 d e f
  g4 f e d
  \bar "|."
}
```



## Time signature in brackets

The time signature can be enclosed within brackets.

```
\relative c' {
  \override Staff.TimeSignature.stencil = #(lambda (grob)
    (bracketify-stencil (ly:time-signature::print grob) Y 0.1 0.2 0.1))
  \time 2/4
  a4 b8 c
}
```



## Compàs entre parèntesis

La indicació de compàs pot envoltar-se entre parèntesi.

```
\relative c' {
  \override Staff.TimeSignature.stencil = #(lambda (grob)
    (parenthesize-stencil (ly:time-signature::print grob) 0.1 0.4 0.4 0.1))
  \time 2/4
  a4 b8 c
}
```



## Ajustament de les propietats de clau

La modificació del glif de la clau, la seva posició o octava, no canvien 'per se' la posició de les notes següents del pentagrama. Per aconseguir armadures adequades de tonalitat sobre les línies del pentagrama, s'ha d'especificar també `middleCClefPosition`, amb valor positiu o negatiu que moguin Do central cap amunt o cap avall, respectivament, en relació amb la línia central del pentagrama (usualment la tercera).

Per exemple, l'ordre `\clef "treble_8"` equival a un ajustament de `clefGlyph`, `clefPosition` (que controla la posició vertical de la clau sobre el pentagrama), `middleCPosition` i `clefTransposition`. Se imprimeix la clau cada cop que es modifica qualsevol de les propietats excepte `middleCPosition`.

Els exemple següents mostren les possibilitats quan s'ajusten aquestes propietats manualment. En la primera línia, els canvis manuals preserven la posició relativa estàndard de les clau i les notes, però no ho fan a la segona línia.

```
{
% The default treble clef.
\key f \major
c'1
% The standard bass clef
\set Staff.clefGlyph = "clefs.F"
\set Staff.clefPosition = 2
\set Staff.middleCPosition = 6
\set Staff.middleCClefPosition = 6
\key g \major
c'1
% The baritone clef.
\set Staff.clefGlyph = "clefs.C"
\set Staff.clefPosition = 4
\set Staff.middleCPosition = 4
\set Staff.middleCClefPosition = 4
\key f \major
c'1
% The standard choral tenor clef.
\set Staff.clefGlyph = "clefs.G"
\set Staff.clefPosition = -2
\set Staff.clefTransposition = -7
\set Staff.middleCPosition = 1
\set Staff.middleCClefPosition = 1
\key f \major
c'1
% A non-standard clef.
\set Staff.clefPosition = 0
\set Staff.clefTransposition = 0
\set Staff.middleCPosition = -4
\set Staff.middleCClefPosition = -4
\key g \major
c'1 \break

% The following clef changes do not preserve
% the normal relationship between notes, key signatures
% and clefs.
\set Staff.clefGlyph = "clefs.F"
```

```

\set Staff.clefPosition = 2
c'1
\set Staff.clefGlyph = "clefs.G"
c'1
\set Staff.clefGlyph = "clefs.C"
c'1
\set Staff.clefTransposition = 7
c'1
\set Staff.clefTransposition = 0
\set Staff.clefPosition = 0
c'1

% Return to the normal clef.
\set Staff.middleCPosition = 0
c'1
}

```



## Two \partCombine pairs on one staff

The `\partCombine` function takes two music expressions, each containing a part, and distributes them among four Voice contexts named “one”, “two”, “solo”, and “shared”, depending on when and how the parts are merged into a common voice.

Variants of `\partCombine` are `\partCombineUp` and `\partCombineDown` to produce up-stem and down-stem merging of two voices, respectively. Combining them to squeeze four parts into a single staff, however, need some special setup, which this snippet defines accordingly.

```

customPartCombineUp =
#(define-music-function (part1 part2) (ly:music? ly:music?)
  "Make an up-stem `VoiceBox` context that combines PART1 and PART2.

```

The context is called 'Up'; internally, the function calls `\partCombineUp`.`

```

#{
  \new VoiceBox = "Up" <<
    \context Voice = "one" { \voiceOne }
    \context Voice = "two" { \voiceThree }
    \context Voice = "shared" { \voiceOne }
    \context Voice = "solo" { \voiceOne }
    \context NullVoice = "null" {}
    \partCombine #part1 #part2
  >>
#})

```

```

customPartCombineDown =
#(define-music-function (part3 part4) (ly:music? ly:music?)

```

"Make a down-stem ``VoiceBox`` context that combines PART3 and PART4.

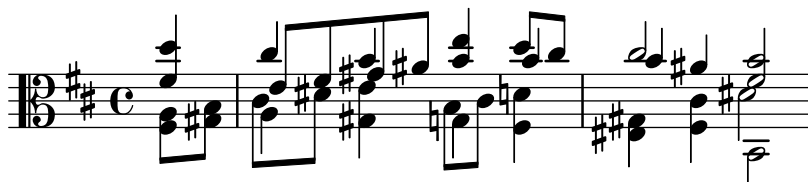
The context is called 'Down'; internally, the function calls ``\partCombineDown``."

```
#{
  \new VoiceBox = "Down" <<
    \set VoiceBox.soloText = #"Solo III"
    \set VoiceBox.soloIIIText = #"Solo IV"
    \context Voice="one" { \voiceFour }
    \context Voice="two" { \voiceTwo }
    \context Voice="shared" { \voiceFour }
    \context Voice="solo" { \voiceFour }
    \context NullVoice = "null" {}
    \partCombine #part3 #part4
  >>
#})

soprano = { d'4 | cis' b e' d'8 cis' | cis'2 b }
alto = { fis4 | e8 fis gis ais b4 b | b ais fis2 }
tenor = { a8 b | cis' dis' e'4 b8 cis' d'4 | gis cis' dis'2 }
bass = { fis8 gis | a4 gis g fis | eis fis b,2 }

\new Staff <<
  \key b\minor
  \clef alto
  \partial 4
  \transpose b b' \customPartCombineUp \soprano \alto
  \customPartCombineDown \tenor \bass
>>

\layout {
  \context {
    \Staff
    \accepts "VoiceBox"
  }
  \context {
    \name "VoiceBox"
    \type "Engraver_group"
    \defaultchild "Voice"
    \accepts "Voice"
    \accepts "NullVoice"
  }
}
```



## Us del corxet recte al començament d'un grup de pentagrames

Es pot usar el delimitador de començament d'un sistema `SystemStartSquare` establint-lo explícitament dins d'un context `StaffGroup` o `ChoirStaffGroup`.

```
\score {
  \new StaffGroup { <<
    \set StaffGroup.systemStartDelimiter = #'SystemStartSquare
    \new Staff { c'4 d' e' f' }
    \new Staff { c'4 d' e' f' }
  >> }
}
```



## Using `\autoChange` with more than one voice

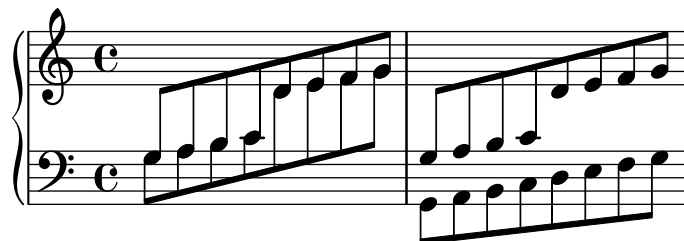
Here is a demonstration of how to use `\autoChange` with more than one voice.

```
\score {
  \new PianoStaff
  <<
    \new Staff = "up" {
      <<
        \set Timing.beamExceptions = #'()
        \set Timing.beatStructure = #'(4)
        \new Voice {
          \voiceOne
          \autoChange
          \relative c' {
            g8 a b c d e f g
            g,.8 a b c d e f g
          }
        }
      >>
    }

    \new Voice {
      \voiceTwo
      \autoChange
      \relative c' {
        g8 a b c d e f g
        g,,.8 a b c d e f g
      }
    }
  >>
}

\new Staff = "down" {
  \clef bass
}
```

```
>>
}
```



## Using mark lines in a Frenched score

Using `MarkLine` contexts (such as in “Placing rehearsal marks other than above the top staff”) in a Frenched score can be problematic if all the staves between two `MarkLines` are removed in one system. The `Keep_alive_together_engraver` can be used within each `StaffGroup` to keep the `MarkLine` alive only as long as the other staves in the group stay alive.

```
bars = {
  \tempo "Allegro" 4=120
  s1*2
  \repeat unfold 5 { \mark \default s1*2 }
  \bar "||"
  \tempo "Adagio" 4=40
  s1*2
  \repeat unfold 8 { \mark \default s1*2 }
  \bar "|."
}

winds = \repeat unfold 120 { c''4 }
trumpet = { \repeat unfold 8 g'2 R1*16 \repeat unfold 4 g'2 R1*8 }
trombone = { \repeat unfold 4 c'1 R1*8 d'1 R1*17 }
strings = \repeat unfold 240 { c''8 }

#(set-global-staff-size 16)
\paper {
  systems-per-page = 5
  ragged-last-bottom = ##f
  tagline = ##f
}

\layout {
  indent = 16\mm
  short-indent = 5\mm
  \context {
    \name MarkLine
    \type Engraver_group
    \consists Output_property_engraver
    \consists Axis_group_engraver
    \consists Mark_engraver
    \consists Metronome_mark_engraver
    \consists Staff_collecting_engraver
    \override VerticalAxisGroup.remove-empty = ##t
    \override VerticalAxisGroup.remove-layer = #'any
```

```

\override VerticalAxisGroup.staff-affinity = #DOWN
\override VerticalAxisGroup.nonstaff-relatedstaff-spacing.padding = 1
keepAliveInterfaces = #'()
}
\context {
  \Staff
  \override VerticalAxisGroup.remove-empty = ##t
  \override VerticalAxisGroup.remove-layer = ##f
}
\context {
  \StaffGroup
  \accepts MarkLine
  \consists Keep_alive_together_engraver
}
\context {
  \Score
  \remove Mark_engraver
  \remove Metronome_mark_engraver
  \remove Staff_collecting_engraver
  \override BarNumber.Y-offset = #3
}
}

\score {
  <<
  \new StaffGroup = "winds" \with {
    instrumentName = "Winds"
    shortInstrumentName = "W."
  } <<
  \new MarkLine \bars
  \new Staff \winds
  >>
  \new StaffGroup = "brass" <<
  \new MarkLine \bars
  \new Staff = "trumpet" \with {
    instrumentName = "Trumpet"
    shortInstrumentName = "Tp."
  } \trumpet
  \new Staff = "trombone" \with {
    instrumentName = "Trombone"
    shortInstrumentName = "Tb."
  } \trombone
  >>
  \new StaffGroup = "strings" \with {
    instrumentName = "Strings"
    shortInstrumentName = "Str."
  } <<
  \new MarkLine \bars
  \new Staff = "strings" { \strings }
  >>
  >>
}

```

The musical score is divided into systems, each containing staves for Winds, Trumpet, Trombone, and Strings. The score includes tempo markings and section labels (A through N).

**System 1:** Winds, Trumpet, Trombone, and Strings. Tempo: **Allegro** (♩ = 120). Sections **A** and **B** are marked.

**System 2:** Winds (W.) and Strings (Str.). Sections **C** and **D** are marked.

**System 3:** Winds (W.), Trombone (Tb.), and Strings (Str.). Tempo: **Adagio** (♩ = 40). Sections **E** and **F** are marked.

**System 4:** Winds (W.) and Strings (Str.). Sections **G** and **H** are marked.

**System 5:** Winds (W.), Trumpet (Tp.), and Strings (Str.). Sections **J**, **K**, and **L** are marked.

**System 6:** Winds (W.) and Strings (Str.). Sections **M** and **N** are marked.



## Vertically aligned StaffGroups without connecting SystemStartBar

This snippet shows how to achieve vertically aligned StaffGroups with a SystemStartBar for each StaffGroup, but without connecting them.

Note that this only works properly for music that can be printed as a single system.

```

#(set-global-staff-size 15)

\paper {
  ragged-right = ##f
  print-all-headers = ##t
  tagline = ##f
}

\layout {
  indent = 0

  \context {
    \StaffGroup
    \consists Text_mark_engraver
    \consists Staff_collecting_engraver
    systemStartDelimiterHierarchy =
      #'(SystemStartBrace (SystemStartBracket a b))
  }

  \context {
    \Score
    \remove Text_mark_engraver
    \remove Staff_collecting_engraver
    \override SystemStartBrace.style = #'bar-line
    \omit SystemStartBar
    \override SystemStartBrace.padding = #-0.1
    \override SystemStartBrace.thickness = #1.6
    \override StaffGrouper.staffgroup-staff-spacing.basic-distance = #15
  }
}

%%% EXAMPLE

txt =
\lyricmode {
  Wer4 nur den lie -- ben Gott läßt wal2 -- ten4
  und4 hof -- fet auf ihn al -- le Zeit2.
}

% First StaffGroup "exercise"

eI = \relative c' {
  \textMark \markup {
    \bold Teacher:
    This is a simple setting of the choral. Please improve it. }
  \key a \minor
  \time 4/4

```

```

\voiceOne

\partial 4 e4
a b c b
a b gis2
e4\fermata g! g f
e a a gis
a2.\fermata
\bar " : | ."
}

eII = \relative c' {
  \key a \minor
  \time 4/4
  \voiceTwo
  \partial 4 c4
  e e e gis
  a f e2
  b4 b d d
  c c d d
  c2.
  \bar " : | ."
}

eIII = \relative c' {
  \key a \minor
  \time 4/4
  \clef bass
  \voiceOne

  \partial 4 a4
  c b a b
  c d b2
  gis4 g g b
  c a f e
  e2.
}

eIV = \relative c' {
  \key a \minor
  \time 4/4
  \clef bass
  \voiceTwo

  \partial 4 a,4
  a' gis a e
  a, d e2
  e,4\fermata e' b g
  c f d e
  a,2.\fermata
  \bar " : | ."
}

```

```

exercise = \new StaffGroup = "exercise" <<
  \new Staff <<
    \new Voice \eI
    \new Voice \eII
  >>

  \new Lyrics \txt

  \new Staff <<
    \new Voice \eIII
    \new Voice \eIV
  >>
>>

% Second StaffGroup "simple Bach"

sbI = \relative c' {
  \textMark \markup { \bold" Pupil:" Here's my version! }
  \key a \minor
  \time 4/4
  \voiceOne

  \partial 4 e4
  a b c b
  a b gis2
  e4\fermata g! g f
  e a a gis
  a2.\fermata
  \bar ":|."
}

sbII = \relative c' {
  \key a \minor
  \time 4/4
  \voiceTwo
  \partial 4 c8 d
  e4 e e8 f g4
  f f e2
  b4 b8 c d4 d
  e8 d c4 b8 c d4
  c2.
  \bar ":|."
}

sbIII = \relative c' {
  \key a \minor
  \time 4/4
  \clef bass
  \voiceOne

```

```

\partial 4 a8 b
c4 b a b8 c
d4 d8 c b2
gis4 g g8 a b4
b a8 g f4 e
e2.
}

sbIV = \relative c' {
  \key a \minor
  \time 4/4
  \clef bass
  \voiceTwo

  \partial 4 a,4
  a' gis a e
  f8 e d4 e2
  e,4\fermata e' b a8 g
  c4 f8 e d4 e
  a,2.\fermata
  \bar ":|."
}

simpleBach = \new StaffGroup = "simple Bach" <<
  \new Staff <<
    \new Voice \sbI
    \new Voice \sbII
  >>

  \new Lyrics \txt

  \new Staff <<
    \new Voice \sbIII
    \new Voice \sbIV
  >>
>>

% Third StaffGroup "chromatic Bach"

cbI = \relative c' {
  \textMark \markup {
    \bold "Teacher:"
    \column {
      "Well, you simply copied and transposed a version of J.S.Bach."
      "Do you know this one?"
    }
  }
}

\key a \minor
\time 4/4
\voiceOne

```

```

\partial 4 e4
a b c b
a b gis4. fis8
e4\fermata g! g f
e a a8 b gis4
a2.\fermata
\bar " : | ."
}

cbII = \relative c' {
  \key a \minor
  \time 4/4
  \voiceTwo

  \partial 4 c8 d
  e4 e e8 fis gis4
  a8 g! f!4 e2
  b4 e e d
  d8[ cis] d dis e fis e4
  e2.
  \bar " : | ."
}

cbIII = \relative c' {
  \key a \minor
  \time 4/4
  \clef bass
  \voiceOne

  \partial 4 a8 b
  c[ b] a gis8 a4 d,
  e8[ e'] d c b4. a8
  gis4 b c d8 c
  b[ a] a b c b b c16 d
  c2.
}

cbIV = \relative c' {
  \key a \minor
  \time 4/4
  \clef bass
  \voiceTwo

  \partial 4 a4
  c, e a, b
  c d e2
  e4\fermata e a b8 c
  gis[ g] fis f e dis e4
  a,2.\fermata
  \bar " : | ."
}

```

```

chromaticBach = \new StaffGroup = "chromatic Bach" <<
  \new Staff <<
    \new Voice \cbI
    \new Voice \cbII
  >>

  \new Lyrics \txt

  \new Staff <<
    \new Voice \cbIII
    \new Voice \cbIV
  >>
>>

% Score

\score {
  <<
    \exercise
    \simpleBach
    \chromaticBach
  >>

  \header {
    title = \markup \column {
      \combine \null \vspace #1
      "Exercise: Improve the given choral"
      " "
    }
  }

  \layout {
    \context {
      \Lyrics
      \override LyricText.X-offset = #-1
    }
  }
}

```

### Exercise: Improve the given choral

**Teacher:** This is a simple setting of the choral. Please improve it.

Wer nur den lie - ben Gott läßt wal - ten und hof-fet auf ihn al - le Zeit

**Pupil:** Here's my version!

Wer nur den lie - ben Gott läßt wal - ten und hof-fet auf ihn al - le Zeit

**Teacher:** Well, you simply copied and transposed a version of J.S.Bach.  
Do you know this one?

Wer nur den lie - ben Gott läßt wal - ten und hof-fet auf ihn al - le Zeit

## Corxets de primera i segona vegada a sota dels acords

Mitjançant l'addició del gravador `Volta_engraver` al pentagrama pertinent, es poden posar els corxets de primera i segona veu a sota dels acords.

```
\score {
  <<
    \chords { c1 c1 }
    \new Staff \with { \consists "Volta_engraver" }
    {
      \repeat volta 2 { c'1 \alternative { c' } }
    }
  >>
  \layout {
    \context {
      \Score
      \remove "Volta_engraver"
    }
  }
}
```

C C

1.2.

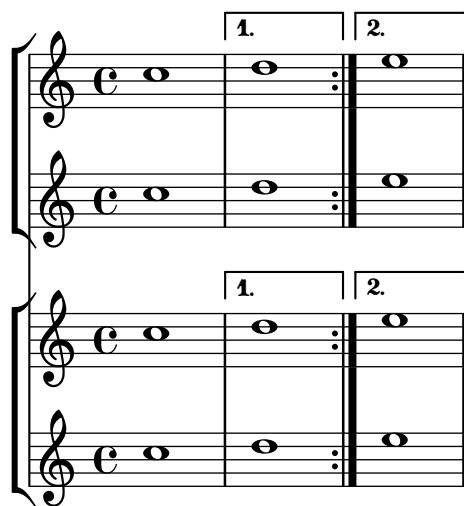
## Volta brackets in multiple staves

By adding the `Volta_engraver` to the relevant staff, volte can be put over staves other than the topmost one in a score.

`\repeat` and related commands should be present in all staves.

```
voltaMusic = \relative c'' {
  \repeat volta 2 {
    c1
    \alternative {
      \volta 1 { d1 }
      \volta 2 { e1 }
    }
  }
}

<<
  \new StaffGroup <<
    \new Staff \voltaMusic
    \new Staff \voltaMusic
  >>
  \new StaffGroup <<
    \new Staff \with { \consists "Volta_engraver" }
      \voltaMusic
    \new Staff \voltaMusic
  >>
>>
```





## 7 Editorial annotations

See also Secció “Editorial annotations” in *Referencia de la Notación*.

### Afegir digitacions a la partitura

Es poden escriure ordre de digitació usant una sintaxi molt senzilla.

```
\relative c'' {
  c4-1 d-2 f-4 e-3
}
```



### Afegir enllaços als objectes

Per afegir un enllaç al segell d'un objecte gràfic, podem usar `add-link` tal i com es defineix aquí. Funciona amb `\override` i amb `\tweak`. Inconvenient: `point-and-click` (apuntar i clicar) quedarà obstaculitzat pels objectes gràfics enllaçats.

Limitació: funciona sols per a PDF.

Els objectes enllaçats s'acolorixen amb una ordre a part.

```
#(define (add-link url-strg)
  (lambda (grob)
    (let* ((stil (ly:grob-property grob 'stencil)))
      (if (ly:stencil? stil)
        (let* ((x-ext (ly:stencil-extent stil X))
              (y-ext (ly:stencil-extent stil Y))
              (url-expr `(url-link ,url-strg ,x-ext ,y-ext))
              (new-stil
                (ly:stencil-add
                 (ly:make-stencil url-expr x-ext y-ext)
                 stil)))
          (ly:grob-set-property! grob 'stencil new-stil))))))
```

```
%%% test
```

```
% For easier maintenance of this snippet the URL is formatted to use the
% actually used LilyPond version.
% Of course a literal URL would work as well.
```

```
#(define major.minor-version
  (string-join (take (string-split (lilypond-version) #\.) 2) "."))

urlI =
#(format #f
  "http://lilypond.org/doc/v~a/Documentation/notation/writing-pitches"
  major.minor-version)

urlII =
#(format #f
  "http://lilypond.org/doc/v~a/Documentation/notation/rhythms"
```

```

major.minor-version)

urlIII =
#(format #f
  "http://lilypond.org/doc/v~a/Documentation/notation/note-heads"
  major.minor-version)

urlIV =
#(format #f
  "http://lilypond.org/doc/v~a/Documentation/notation/beams"
  major.minor-version)

urlV =
#(format #f
  "http://lilypond.org/doc/v~a/Documentation/notation/note-head-styles"
  major.minor-version)

urlVI =
#(format #f
  "http://lilypond.org/doc/v~a/Documentation/notation/writing-pitches"
  major.minor-version)

\relative c' {
  \key cis \minor

  \once \override Staff.Clef.color = #green
  \once \override Staff.Clef.after-line-breaking =
    #(add-link urlI)

  \once \override Staff.TimeSignature.color = #green
  \once \override Staff.TimeSignature.after-line-breaking =
    #(add-link urlII)

  \once \override NoteHead.color = #green
  \once \override NoteHead.after-line-breaking =
    #(add-link urlIII)

  cis'1
  \once \override Beam.color = #green
  \once \override Beam.after-line-breaking =
    #(add-link urlIV)
  cis8 dis e fis gis2
  <gis,
    \tweak Accidental.color #green
    \tweak Accidental.after-line-breaking #(add-link urlVI)
    \tweak color #green
    \tweak after-line-breaking #(add-link urlV)
    \tweak style #'harmonic
  bis
  dis
  fis
  >1

```

```
<cis, cis' e>
}
```



## Adding markups in a tablature

By default, markups are not displayed in a tablature.

To make them appear, revert the stencil property of the TextScript grob in the TabStaff context.

```
high = { r4 r8 <g c'> q r8 r4 }
low = { c4 r4 c8 r8 g,8 b, }
pulse = { s8^"1" s^"&" s^"2" s^"&" s^"3" s^"&" s^"4" s^"&" }
```

```
\score {
  \new TabStaff {
    \repeat unfold 2 << \high \ \ \low \ \ \pulse >>
  }
  \layout {
    \context {
      \TabStaff
      \clef moderntab
      \revert TextScript.stencil
      \override TextScript.font-series = #'bold
      \override TextScript.font-size = #-2
      \override TextScript.color = #red
    }
    \context {
      \Score
      proportionalNotationDuration = #1/8
    }
  }
}
```

	1	&	2	&	3	&	4	&	1	&	2	&	3	&	4	&
<b>T</b>																
<b>A</b>																
<b>B</b>	3				3				2	3			3			2

## Permetre que les digitacions s'imprimeixen del pentagrama

Les xifres de digitació orientades verticalment es col·loquen de forma predeterminada fora del pentagrama. Malgrat això, aquest comportament es pot desactivar. Nota: s'ha d'usar una construcció d'acord <>, tot i que sigui una sola nota.

```
\relative c' {
  <c-1 e-2 g-3 b-5>2
  \override Fingering.staff-padding = #'()
  <c-1 e-2 g-3 b-5>4 g'-0
  a8[-1 b]-2 g-0 r
  \override Fingering.add-stem-support = ##f
  a[-1 b]-2 g-0 r
```

```

\override Fingering.add-stem-support = ##t
a[-1 b]-2 g-0 r
\override Fingering.add-stem-support = #only-if-beamed
a[-1 b]-2 g-0 r
}

```



## Numeració de compassos alternativa

Es poden seleccionar dos mètodes alternatius per a la numeració de compassos, especials quan hi ha repeticions.

```

music = \relative c' {
  \repeat volta 3 {
    c4 d e f |
    \alternative {
      \volta 1 { c4 d e f | c2 d \break }
      \volta 2 { f4 g a b | f4 g a b | f2 a | \break }
      \volta 3 { c4 d e f | c2 d } } }
  c1 \bar "|"
}

{
  \textMark \markup \large "default"
  \music
}

{
  \textMark \markup \large \typewriter "numbers"
  \set Score.alternativeNumberingStyle = #'numbers
  \music
}

{
  \textMark \markup \large \typewriter "numbers-with-letters"
  \set Score.alternativeNumberingStyle = #'numbers-with-letters
  \music
}

\layout {
  \context {
    \Score
    \override TextMark.Y-offset = #5
  }
}

```

default

numbers

numbers-with-letters

## Claus d'anàlisi a sobre del pentagrama

De forma predeterminada s'afegeixen claus d'anàlisi senzills a sota del pentagrama. L'exemple següent mostra una manera de col·locar-los a sobre.

```
\layout {
  \context {
    \Voice
    \consists "Horizontal_bracket_engraver"
  }
}

\relative c'' {
  \once \override HorizontalBracket.direction = #UP
  c2\startGroup
```

```
d2\stopGroup
}
```



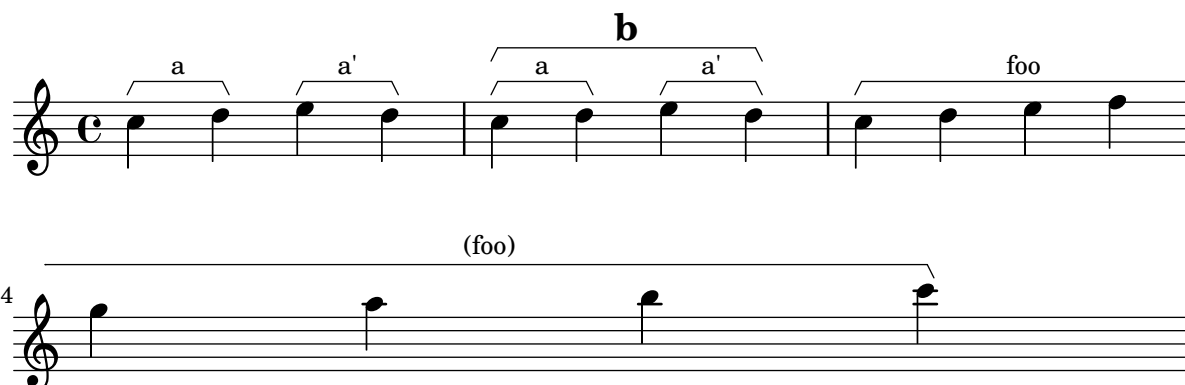
## Analysis brackets with labels

Text markup may be added to analysis brackets using the `text` property of the `HorizontalBracketText` grob. Adding different texts to brackets beginning at the same time requires the `\tweak` command.

Bracket text gets parenthesized after a line break. The vertical order of nested brackets can be controlled with the `outside-staff-priority` property.

```
\layout {
  \context {
    \Voice
    \consists "Horizontal_bracket_engraver"
    \override HorizontalBracket.direction = #UP
  }
}

{
  \once\override HorizontalBracketText.text = "a"
  c''\startGroup d''\stopGroup
  \once\override HorizontalBracketText.text = "a'"
  e''\startGroup d''\stopGroup |
  c''-\tweak outside-staff-priority #801
    \tweak HorizontalBracketText.text
      \markup \bold \huge "b" \startGroup
    -\tweak HorizontalBracketText.text "a" \startGroup
  d''\stopGroup
  e''-\tweak HorizontalBracketText.text "a'" \startGroup
  d''\stopGroup\stopGroup |
  c''-\tweak HorizontalBracketText.text foo \startGroup
  d'' e'' f'' | \break
  g'' a'' b'' c'''\stopGroup
}
```



## Aplicar estils de cap segons la nota de l'escala

La propietat `shapeNoteStyles` es pot usar per definir diversos estils de caps de nota per a cada grau de l'escala (segons estigui establert per l'armadura o per la propietat `tonic`). Aquesta propietat requereix un conjunt de símbols, que poden ser purament arbitraris (es permeten expressions geomètriques com `triangle`, `triangle`, `cross`, `aspes`, i `xcircle`, cercle amb aspes) o basats en una antiga tradició americana de gravat (també es permeten certs noms de nota llatins).

Dit això, per imitar antics cançoners americans, hi ha diversos estils predefinitos de caps de nota disponibles mitjançant ordres d'abreviatura com `\aikenHeads` o `\sacredHarpHeads`.

Aquest exemple mostra diferents formes d'obtenir caps de nota amb forma i mostra la capacitat de transportar una melodia sense perdre la correspondència entre les funcions harmòniques i els estils de caps de nota.

```
fragment = {
  \key c \major
  c2 d
  e2 f
  g2 a
  b2 c
}

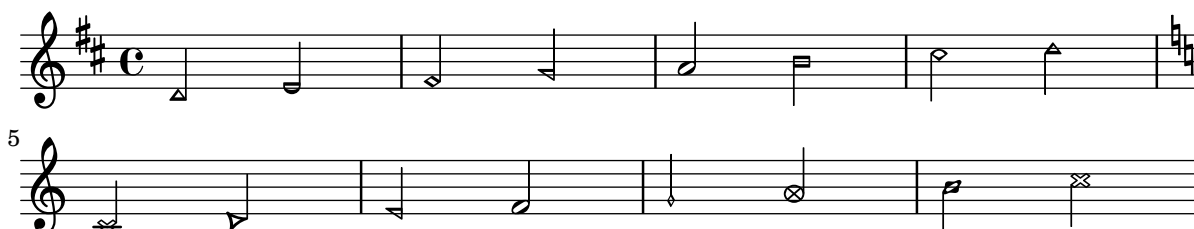
\new Staff {
  \transpose c d
  \relative c' {
    \set shapeNoteStyles = ##(do re mi fa
                          #f la ti)

    \fragment
  }

  \break

  \relative c' {
    \set shapeNoteStyles = ##(cross triangle fa #f
                          mensural xcircle diamond)

    \fragment
  }
}
```



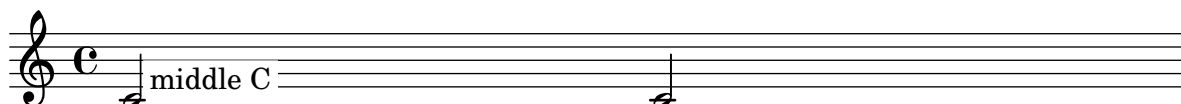
## Posar en blanc les línies del utilitzant l'ordre `\whiteout`

L'ordre `\whiteout` intercala un rectangle blanc a sota d'un element de marcatge. Aquest rectangle blanc no tapa a cap altre objecte gràfic, atès que les línies del pentagrama estan en una capa inferior a la de la major part dels altres objectes.

```
\layout {
  ragged-right = ##f
```

}

```
\relative c' {
  \override TextScript.extra-offset = #'(2 . 4)
  c2-\markup { \whiteout \pad-markup #0.5 "middle C" } c
}
```

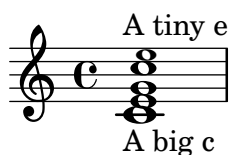


## Changing a single note's size in a chord

Individual note heads in a chord can be modified with the `\tweak` command inside a chord, by altering the `font-size` property.

Inside the chord (within the brackets `< >`), before the note to be altered, place the `\tweak` command, followed by `font-size` and define the proper size like `#-2` (a tiny note head).

```
\relative c' {
  <\tweak font-size #+2 c e g c
  \tweak font-size #-2 e>1
  ~\markup { A tiny e }_\markup { A big c }
}
```



## Modificar l'aspecte continu d'una lligadura d'expressió a puntejat o intermitent

Es pot canviar l'aspecte de les lligadures d'expressió de contínues a puntejades o intermitents.

```
\relative c' {
  c4( d e c)
  \slurDotted
  c4( d e c)
  \slurSolid
  c4( d e c)
  \slurDashed
  c4( d e c)
  \slurSolid
  c4( d e c)
}
```





## Acolorir les notes segons la seva alçada

És possible acolorir el cap de les notes depenent de la seva alçada i/o del seu nom: la funció que s'usa en aquest exemple fa possible fins i tot distingir els harmònics.

```
% Association list of pitches to colors.
#(define color-mapping
  (list
    (cons (ly:make-pitch 0 0 NATURAL) (x11-color 'red))
    (cons (ly:make-pitch 0 0 SHARP) (x11-color 'green))
    (cons (ly:make-pitch 0 1 FLAT) (x11-color 'green))
    (cons (ly:make-pitch 0 2 NATURAL) (x11-color 'red))
    (cons (ly:make-pitch 0 2 SHARP) (x11-color 'green))
    (cons (ly:make-pitch 0 3 FLAT) (x11-color 'red))
    (cons (ly:make-pitch 0 3 NATURAL) (x11-color 'green))
    (cons (ly:make-pitch 0 4 SHARP) (x11-color 'red))
    (cons (ly:make-pitch 0 5 NATURAL) (x11-color 'green))
    (cons (ly:make-pitch 0 5 FLAT) (x11-color 'red))
    (cons (ly:make-pitch 0 6 SHARP) (x11-color 'red))
    (cons (ly:make-pitch 0 1 NATURAL) (x11-color 'blue))
    (cons (ly:make-pitch 0 3 SHARP) (x11-color 'blue))
    (cons (ly:make-pitch 0 4 FLAT) (x11-color 'blue))
    (cons (ly:make-pitch 0 5 SHARP) (x11-color 'blue))
    (cons (ly:make-pitch 0 6 FLAT) (x11-color 'blue))))

% Compare pitch and alteration (not octave).
#(define (pitch-equals? p1 p2)
  (and
    (= (ly:pitch-alteration p1) (ly:pitch-alteration p2))
    (= (ly:pitch-notename p1) (ly:pitch-notename p2))))

#(define (pitch-to-color pitch)
  (let ((color (assoc pitch color-mapping pitch-equals?)))
    (if color
      (cdr color))))

#(define (color-notehead grob)
  (pitch-to-color
    (ly:event-property (event-cause grob) 'pitch)))

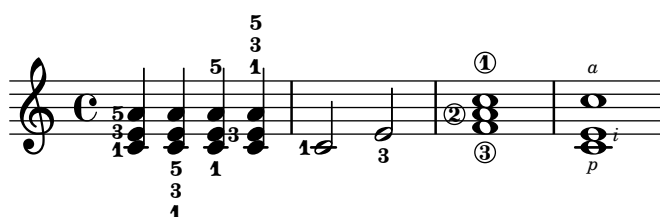
\score {
  \new Staff \relative c' {
    \override NoteHead.color = #color-notehead
    c8 b d dis ees f g aes
  }
}
```



## Controlar la col·locació de les digitacions d'acords

Es pot controlar amb precisió la col·locació dels números de digitació. Perquè es tingui en compte l'orientació de les digitacions, es pot utilitzar una construcció d'acord <> tot i que siguin una sola nota.

```
\relative c' {
  \set fingeringOrientations = #'(left)
  <c-1 e-3 a-5>4
  \set fingeringOrientations = #'(down)
  <c-1 e-3 a-5>4
  \set fingeringOrientations = #'(down right up)
  <c-1 e-3 a-5>4
  \set fingeringOrientations = #'(up)
  <c-1 e-3 a-5>4
  \set fingeringOrientations = #'(left)
  <c-1>2
  \set fingeringOrientations = #'(down)
  <e-3>2
  \set stringNumberOrientations = #'(up left down)
  <f\3 a\2 c\1>1
  \set strokeFingerOrientations = #'(down right up)
  <c\rightHandFinger 1 e\rightHandFinger 2 c'\rightHandFinger 4 >
}
```



## Crear un grupet d'anticipació

La creació d'un grupet circular d'anticipació entre dues notes, on la nota inferior del grupet utilitza una alteració, requereix diverses sobreescritures de propietats. La propietat `outside-staff-priority` es pot establir al valor `#f`, atès que en aquest cas tindria prioritat sobre la propietat `avoid-slur property`. Canviant les fraccions `2/3` i `1/3` pot ajustar-se la posició horitzontal.

```
\relative c' {
  \after 2*2/3 \turn c2( d4) r |
  \after 4 \turn c4.( d8)
  \after 4
  {
    \once \set suggestAccidentals = ##t
    \once \override AccidentalSuggestion.outside-staff-priority = ##f
    \once \override AccidentalSuggestion.avoid-slur = #'inside
    \once \override AccidentalSuggestion.font-size = -3
    \once \override AccidentalSuggestion.script-priority = -1
    \once \hideNotes
    cis8\turn \noBeam
  }
  d4.( e8)
}
```



## Crear pentagrames en blanc

Per crear pentagrames en blanc, genereu compassos buits i després elimineu el gravador de números de compàs `Bar_number_engraver` del context `Score`, i els gravadors de la indicació de compàs `Time_signature_engraver`, de la clau `Clef_engraver` i dels compassos `Bar_engraver` del context de `Staff`.

```
#(set-global-staff-size 10) % for the documentation
% #(set-global-staff-size 20) % for letter and A4
```

```
\book {
  \score {
    { \repeat unfold 12 { s1 \break } }

    \layout {
      indent = 0
      \context {
        \Staff
        \remove "Time_signature_engraver"
        \remove "Clef_engraver"
        \remove "Bar_engraver"
      }
      \context {
        \Score
        \remove "Bar_number_engraver"
      }
    }
  }
}
```

```
% for the documentation
```

```
\paper {
  #(set-paper-size "a6")
  ragged-last-bottom = ##f
  line-width = 90\mm
  left-margin = 7.5\mm
  bottom-margin = 5\mm
  top-margin = 5\mm
  tagline = ##f
}
```

```
% uncomment these lines for "letter" size
```

```
%{
\paper {
  #(set-paper-size "letter")
  ragged-last-bottom = ##f
  line-width = 7.5\in
  left-margin = 0.5\in
  bottom-margin = 0.25\in
}
```

```

    top-margin = 0.25\in
    tagline = ##f
}
%}

% uncomment these lines for "A4" size
%{
\paper {
  #(set-paper-size "a4")
  ragged-last-bottom = ##f
  line-width = 180\mm
  left-margin = 15\mm
  bottom-margin = 10\mm
  top-margin = 10\mm
  tagline = ##f
}
%}
}

=====

=====

=====

=====

=====

=====

=====

=====

=====

=====

=====

```

## Crear digitacions de dues xifres

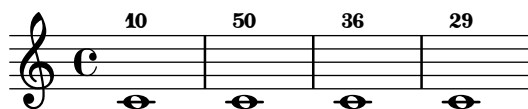
És possible crear digitacions amb el nombre més gran de 5.

```
\relative c' {
```

```

c1-10
c1-50
c1-36
c1-29
}

```



## Direcció predeterminada de las pliques sobre la tercera línia del pentagrama

La direcció predeterminada de les pliques sobre la tercera línia està determinada per la propietat `neutral-direction` de l'objecte `Stem`.

```

\relative c' ' {
  a4 b c b
  \override Stem.neutral-direction = #up
  a4 b c b
  \override Stem.neutral-direction = #down
  a4 b c b
}

```



## Different font size settings for `instrumentName` and `shortInstrumentName`

Choose different font sizes for `instrumentName` and `shortInstrumentName` as a context override.

```

InstrumentNameFontSize =
#(define-music-function (font-size-pair) (pair?)
  "Set the font size of `InstrumentName` grobs.

```

The first value of `FONT-SIZE-PAIR` sets the font size of the initial ``instrumentName`` property, the second value sets the font size of ``shortInstrumentName``.

```

;; This code could be changed or extended to set different values
;; for each occurrence of `shortInstrumentName`.
#{
  \override InstrumentName.after-line-breaking =
    #(lambda (grob)
      (let* ((orig (ly:grob-original grob))
             (siblings (if (ly:grob? orig)
                           (ly:spanner-broken-into orig)
                           '()))))
        (when (pair? siblings)
          (ly:grob-set-property! (car siblings)
                                'font-size (car font-size-pair))
          (for-each
            (lambda (g)

```

```

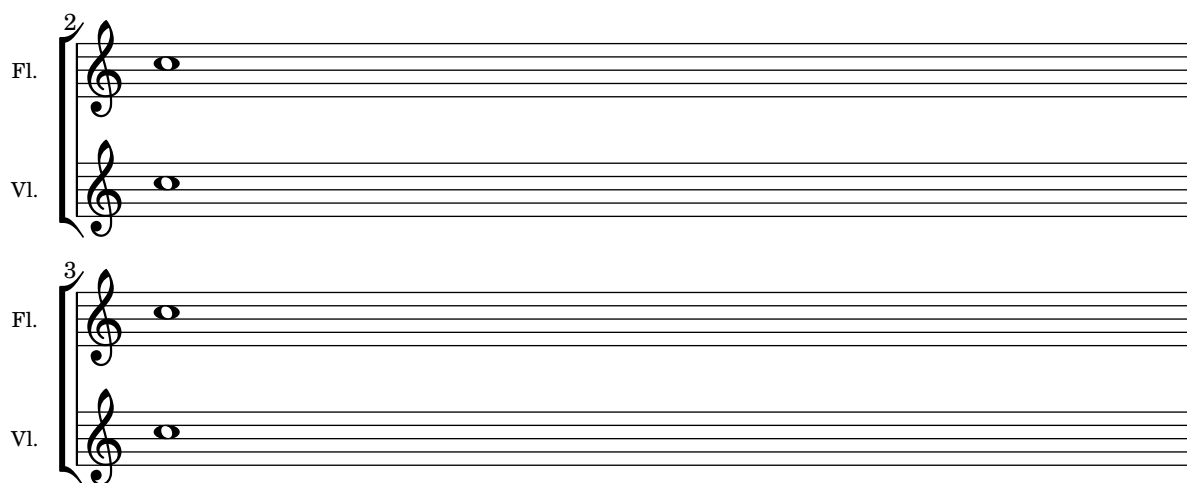
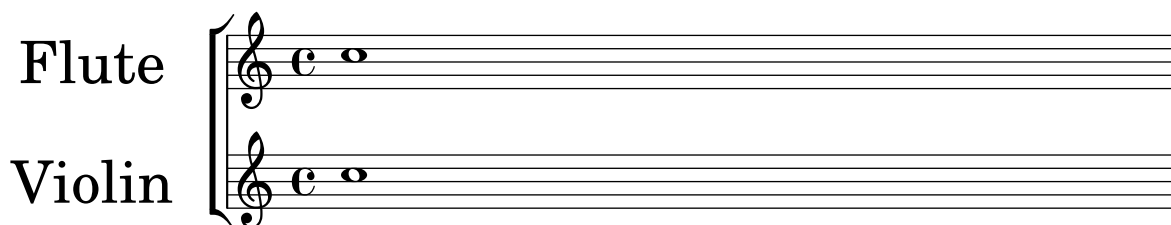
        (ly:grob-set-property! g
                                'font-size (cdr font-size-pair)))
      (cdr siblings))))))
    #})

\layout {
  indent = 3\cm
  short-indent = 0.8\cm

  \context {
    \Staff
    \InstrumentNameFontSize #'(6 . -3)
  }
}

\new StaffGroup <<
  \new Staff \with {
    instrumentName = "Flute"
    shortInstrumentName = "Fl." } {
    c''1 \break c'' \break c'' }
  \new Staff \with {
    instrumentName = "Violin"
    shortInstrumentName = "Vl." } {
    c''1 \break c'' \break c'' }
>>

```



## Rodejar els objectes gràfics amb rectangles

Es pot sobreescrivir la funció `print-function` per traçar un rectangle al voltant d'un objecte gràfic arbitrari.

```
\relative c'' {
```

```

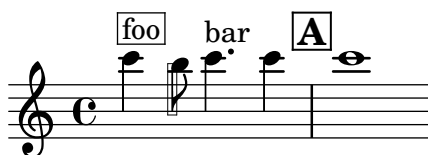
\once \override TextScript.stencil =
  #(make-stencil-boxer 0.1 0.3 ly:text-interface::print)
c'4^"foo"

\tweak Stem.stencil
  #(make-stencil-boxer 0.05 0.25 ly:stem::print)
b8

c4.^"bar" c4

\override Score.RehearsalMark.stencil =
  #(make-stencil-boxer 0.15 0.3 ly:text-interface::print)
\mark \default
c1
}

```



## Traçar circumferències al voltant del cap de les notes

Aquí es presenta com rodejar una nota amb una circumferència.

```

circle = \tweak NoteHead.stencil
  #(lambda (grob)
    (let* ((note (ly:note-head::print grob))
      (combo-stencil (ly:stencil-add
        note
        (circle-stencil note 0.1 0.8))))
      (ly:make-stencil (ly:stencil-expr combo-stencil)
        (ly:stencil-extent note X)
        (ly:stencil-extent note Y))))
\etc

{ \circle c' ' }

```



## Rodejar diversos objectes amb una circumferència

L'ordre de marcatge `\circle` traça circumferències al voltant de diversos objectes, per exemple les indicacions de digitació. Per a d'altres objectes es poden requerir ajustament específics: aquest exemple mostra dues estratègies per a lletres d'assaig i els números de compàs.

```

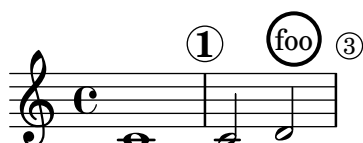
\relative c' {
  c1
  \set Score.rehearsalMarkFormatter =
    #(lambda (mark context)
      (make-circle-markup (format-mark-numbers mark context)))
\mark \default

```

```

c2 d^\markup {
  \override #'(thickness . 3) {
    \circle foo
  }
}
\override Score.BarNumber.break-visibility = #all-visible
\override Score.BarNumber.stencil =
  #(make-stencil-circler 0.1 0.25 ly:text-interface::print)
}

```



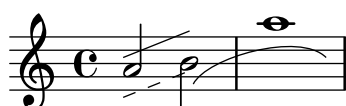
## Inserir PostScript nadiu dins d'un bloc \markup

Es pot inserir codi PostScript directament dins d'un bloc \markup.

```

\relative c'' {
  a2-\markup \postscript "0 3 moveto
                        5 2 rlineto
                        stroke"
  -\markup \postscript "[1 1] 0 setdash
                        0 0 moveto
                        5 2 rlineto
                        stroke"
  b2-\markup \postscript "1 1 moveto
                        0 0 1 2 8 4 10 2 rcurveto
                        stroke"
  a'1
}

```



## Generate special note head shapes

When a note head with a special shape cannot easily be generated with graphic markup, a drawing specification for `ly:make-stencil` can be used to generate the shape. This snippet gives an example for a parallelogram-shaped note head.

Unfortunately, the available commands in a drawing specification are currently not documented (this is tracked in Issue #6874 (<https://gitlab.com/lilypond/lilypond/-/issues/6874>)); in any case, the used path sub-command has the following signature, quite similar to the `make-path-stencil` Scheme function.

```
(path thickness command-list line-cap-style line-join-style fill)
```

The commands in *command-list* resemble PostScript drawing commands but with arguments after the command name.

```

parallelogram =
  #(ly:make-stencil
    '(path 0.1
      (rmoveto 0 0.25

```



```

        lineto 1.2 0.75
        lineto 1.2 -0.25
        lineto 0 -0.75
        lineto 0 0.25)
    round
    round
    #t)
    (cons -0.05 1.25)
    (cons -.75 .75))

myNoteHeads = \override NoteHead.stencil = \parallelogram
normalNoteHeads = \revert NoteHead.stencil

\relative c'' {
  \myNoteHeads
  g4 d'
  \normalNoteHeads
  <f, \tweak stencil \parallelogram b e>4 d
}

```



## Línies de reixeta: modificar el seu aspecte

Es pot canviar l'aspecte de les línies de reixeta sobreescrivint algunes de les seves propietats.

```

\new ChoirStaff <<
  \new Staff {
    \relative c'' {
      \stemUp
      c'4. d8 e8 f g4
    }
  }
  \new Staff {
    \relative c {
      % this moves them up one staff space from the default position
      \override Score.GridLine.extra-offset = #'(0.0 . 1.0)
      \stemDown
      \clef bass
      \once \override Score.GridLine.thickness = 5.0
      c4
      \once \override Score.GridLine.thickness = 1.0
      g'4
      \once \override Score.GridLine.thickness = 3.0
      f4
      \once \override Score.GridLine.thickness = 5.0
      e4
    }
  }
}
>>

```

```

\layout {
  \context {
    \Staff
    % set up grids
    \consists "Grid_point_engraver"
    % set the grid interval to one quarter note
    gridInterval = #1/4
  }
  \context {
    \Score
    \consists "Grid_line_span_engraver"
    % this moves them to the right half a staff space
    \override NoteColumn.X-offset = -0.5
  }
}

```



## Línies de reixeta: destacar ritmes i la relació temporal entre notes

Es poden traçar línies verticals normals entre pentagrames per mostrar la relació entre notes; malgrat això, en cas de música monofònica, podem fer invisible el segon pentagrama, i que les línies siguin més curtes, com en aquest fragment de codi.

```

\new ChoirStaff {
  \relative c'' <<
  \new Staff {
    \time 12/8
    \stemUp
    c4. d8 e8 f g4 f8 e8. d16 c8
  }
  \new Staff {
    % hides staff and notes so that only the grid lines are visible
    \hideNotes
    \hide Staff.BarLine
    \override Staff.StaffSymbol.line-count = #0
    \hide Staff.TimeSignature
    \hide Staff.Clef

    % dummy notes to force regular note spacing
    \once \override Score.GridLine.thickness = #4.0
    c8 c c
    \once \override Score.GridLine.thickness = #3.0
    c8 c c
    \once \override Score.GridLine.thickness = #4.0

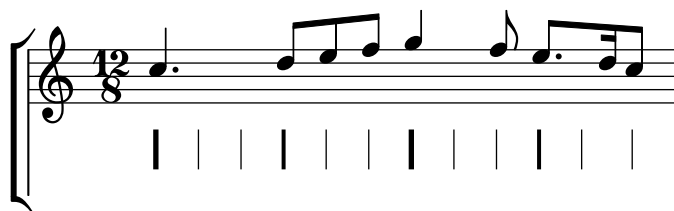
```

```

      c8 c c
      \once \override Score.GridLine.thickness = #3.0
      c8 c c
    }
  >>
}

\layout {
  \context {
    \Score
    \consists "Grid_line_span_engraver"
    % center grid lines horizontally below note heads
    \override NoteColumn.X-offset = #-0.5
  }
  \context {
    \Staff
    \consists "Grid_point_engraver"
    gridInterval = #1/8
    % set line length and positioning:
    % two staff spaces above center line on hidden staff
    % to four spaces below center line on visible staff
    \override GridPoint.Y-extent = #'(2 . -4)
  }
}

```



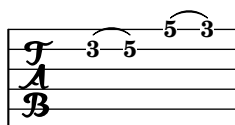
## Hammer-on and pull-off

Hammer-on and pull-off can be obtained using slurs.

```

\new TabStaff {
  \relative c' {
    d4( e\2)
    a( g)
  }
}

```



## Hammer-on and pull-off using chords

When using hammer-on or pull-off with chorded notes, only a single arc is drawn. However “double arcs” are possible by setting the doubleSlurs property to #t.

```

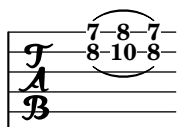
\new TabStaff {

```

```

\relative c' {
  % chord hammer-on and pull-off
  \set doubleSlurs = ##t
  <g' b>8( <a c> <g b>)
}

```



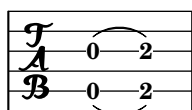
## Hammer-on and pull-off using voices

The arc of hammer-on and pull-off is upwards in voices one and three and downwards in voices two and four:

```

\new TabStaff {
  \relative c' {
    << { \voiceOne g2( a) }
    \\ { \voiceTwo a,( b) }
    >> \oneVoice
  }
}

```



## Fer unes línies del pentagrama més gruixudes que les altres

Es pot fer una línia de pentagrama més gruixuda amb fins pedagògics (per exemple la tercera línia o la de la clau de sol). Això es pot aconseguir afegint més línies molt a prop de la línia que es vol destacar, utilitzant la propietat `line-positions` de l'objecte `StaffSymbol`.

```

{
  \override Staff.StaffSymbol.line-positions =
    #'(-4 -2 -0.2 0 0.2 2 4)
  d'4 e' f' g'
}

```



## Marking notes of spoken parts with a cross on the stem (Sprechstimme)

This example shows how to put crosses on stems. Mark the beginning of a spoken section with the command `\speakOn` and end it with `\speakOff`.

```

\speakOn = \override Stem.stencil =
  #(lambda (grob)
    (let* ((x-parent (ly:grob-parent grob X))
          (is-rest? (ly:grob? (ly:grob-object x-parent 'rest))))
      (if is-rest?

```

```

empty-stencil
(ly:stencil-combine-at-edge
  (ly:stem::print grob)
  Y
  (- (ly:grob-property grob 'direction))
  (grob-interpret-markup
    grob
    (markup #:center-align #:fontsize -4
      #:musicglyph "noteheads.s2cross")))
-1.7))))

speakOff = \revert Stem.stencil

\new Staff {
  \relative c'' {
    a4 b a c
    \speakOn
    g4 f r g8 a
    b4 r r8 d e4
    \speakOff
    c4 a g f
  }
}

```



## Measure counters

This snippet demonstrates the use of the `Measure_counter_engraver` to number groups of successive measures. Any stretch of measures may be numbered, whether consisting of repetitions or not.

The engraver must be added to the appropriate context. Here, a `Staff` context is used; another possibility is a `Dynamics` context.

The counter is begun with `\startMeasureCount` and ended with `\stopMeasureCount`. Numbering will start by default with 1, but this behavior may be modified by overriding the `count-from` property.

When a measure extends across a line break, the number will appear twice, the second time in parentheses.

```

\layout {
  \context {
    \Staff
    \consists #Measure_counter_engraver
  }
}

\new Staff {
  \startMeasureCount
  \repeat unfold 7 {
    c'4 d' e' f'
  }
}

```



```

\stopMeasureSpanner
}
\new Staff \relative c' {
  \key d \minor
  \tweak text "Subject"
    \tweak direction #DOWN
    \startMeasureSpanner
    \tuplet 3/2 8 {
      d16[ e f] g[ f e] f[ g a] bes[ a g]
    }
    a8 d cis c
    b bes a g~ g f e a
  \stopMeasureSpanner
  \tweak text "Counter-subject"
    \tweak direction #DOWN
    \startMeasureSpanner
    f8 e a r r16 b, c d e fis g e
    a gis a b c fis, b a gis e a4 g8
  \stopMeasureSpanner
}
>>

```

The image displays a musical score with three staves. The top staff is empty. The middle staff, labeled "Subject", contains a melodic line with triplets. The bottom staff, labeled "Counter-subject", contains a counter-melodic line with triplets. The "Answer" label is positioned above the "Counter-subject" staff.

## Posicionament precís d'indicacions de digitació

Generalment, les opcions disponibles per a la digitació dels acords funciona bé de forma predefinida, però si una de les indicacions precisa col·locar-se de forma més exacta pot usar-se l'ajustament següent. Això és especialment útil per corregir el posicionat quan hi ha intervals de segona.

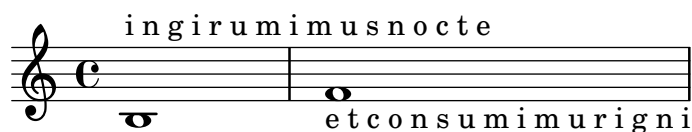
```

\markup \with-true-dimensions % work around a cropping issue
\score {
  \relative c' {
    \set fingeringOrientations = #'(left)
    <c-1 d-2 a'-5>4
    <c-1 d-\tweak extra-offset #'(0 . 0.2)-2 a'-5>

```





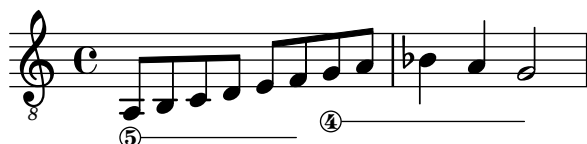


## Línies d'extensió per a nombre de corda

Fem una línia extensora per a les indicacions de nombre de corda, mostrant que una sèrie de notes s'han de tocar sobre la mateixa corda.

```
stringNumberSpanner =
  #(define-music-function (StringNumber) (string?)
    #{
      \override TextSpanner.style = #'solid
      \override TextSpanner.font-size = #-5
      \override TextSpanner.bound-details.left.stencil-align-dir-y = #CENTER
      \override TextSpanner.bound-details.left.text =
        \markup { \circle \number $StringNumber }
    #})

\relative c {
  \clef "treble_8"
  \textSpannerDown
  \stringNumberSpanner "5" a8\startTextSpan b c d
  e f\stopTextSpan \stringNumberSpanner "4" g\startTextSpan a |
  bes4 a g2\stopTextSpan
}
```



## Ús de la propietat whiteout

Es pot imprimir qualsevol objecte gràfic sobre un fons blanc per ocultar part dels objectes que estan a sota. Això pot ser útil per millorar l'aspecte de les col·lisions en situacions complexes quan no es pràctic tornar a col·locar els objectes. Cal establir explícitament la propietat de capa (layer) per controlar quins objectes resulten ocultats pel fons blanc.

En aquest exemple, la col·lisió de la lligadura d'unió amb la indicació de compàs resulta millorada ocultant la part de la lligadura que creua la indicació de compàs mitjançant l'establiment de la propietat whiteout de TimeSignature. per fer això, es mou TimeSignature a una capa per sobre de Tie, que es deixa a la capa predeterminada d'1, i StaffSymbol es mou a una capa per sobre de TimeSignature de manera que no resulti ocultada.

```
{
  \override Score.StaffSymbol.layer = 4
  \override Staff.TimeSignature.layer = 3
  b'2 b'~
  \once \override Staff.TimeSignature.whiteout = ##t
  \time 3/4
  b' r4
}
```



## 8 Text

See also Secció “Text” in *Referencia de la Notación*.

### Adding markups in a tablature

By default, markups are not displayed in a tablature.

To make them appear, revert the `stencil` property of the `TextScript` grob in the `TabStaff` context.

```
high = { r4 r8 <g c'> q r8 r4 }
low = { c4 r4 c8 r8 g,8 b, }
pulse = { s8^"1" s^"&" s^"2" s^"&" s^"3" s^"&" s^"4" s^"&" }
```

```
\score {
  \new TabStaff {
    \repeat unfold 2 << \high \\\ \low \\\ \pulse >>
  }
  \layout {
    \context {
      \TabStaff
      \clef moderntab
      \revert TextScript.stencil
      \override TextScript.font-series = #'bold
      \override TextScript.font-size = #-2
      \override TextScript.color = #red
    }
    \context {
      \Score
      proportionalNotationDuration = #1/8
    }
  }
}
```

	1	&	2	&	3	&	4	&	1	&	2	&	3	&	4	&
<b>T</b>					1-1								1-1			
<b>A</b>					0-0								0-0			
<b>B</b>	3				3			2	3				3			2
							3								3	

### Afegir la data actual a una partitura

Amb quelcom de codi de l'Scheme, es pot afegir fàcilment la data actual a una partitura.

```
\paper { tagline = ##f }
```

```
% first, define a variable to hold the formatted date:
date = #(strftime "%d-%m-%Y" (localtime (current-time)))
```

```
% use it in the title block:
```

```
\header {
  title = "Including the date!"
  subtitle = \date
}
```

```
\score {
  \relative c' {
    c4 c c c
  }
}
% and use it in a \markup block:
\markup {
  \date
}
```

## Including the date!

07-02-2026



07-02-2026

## Adjusting vertical spacing of lyrics

This snippet shows how to bring the lyrics line closer to the staff.

```
music = \relative c' { c4 d e f | g4 f e d | c1 }
text = \lyricmode { aa aa aa aa aa aa aa aa }
```

```
<<
  \new Staff \new Voice = melody \music
  % Default layout:
  \new Lyrics \lyricsto melody \text

  \new Staff \new Voice = melody \music
  % Reducing the minimum space below the staff and above the lyrics.
  \new Lyrics \with {
    \override VerticalAxisGroup.nonstaff-relatedstaff-spacing =
      #'((basic-distance . 1))
  } \lyricsto melody \text
>>
```



## Alinear i centrar els noms dels instruments

L'alineació horitzontal dels noms d'instruments es pot ajustar modificant la propietat `Staff.InstrumentName #'self-alignment-X`. Les variables de `\layout`, `indent` i `short-indent` defineixen l'espai en el qual s'alineen els noms d'instrument abans del primer sistema i dels següents, respectivament.

```
\paper {
```

```

    left-margin = 3\cm
}

\new StaffGroup <<
  \new Staff \with {
    \override InstrumentName.self-alignment-X = #LEFT
    instrumentName = \markup \left-column { "Left aligned"
                                             "instrument name" }

    shortInstrumentName = "Left"
  } {
    c'1 \break c'1
  }

  \new Staff \with {
    \override InstrumentName.self-alignment-X = #CENTER
    instrumentName = \markup \center-column { Centered
                                             "instrument name" }

    shortInstrumentName = "Centered"
  } {
    g'1 g'1
  }

  \new Staff \with {
    \override InstrumentName.self-alignment-X = #RIGHT
    instrumentName = \markup \right-column { "Right aligned"
                                             "instrument name" }

    shortInstrumentName = "Right"
  } {
    e'1 e'1
  }
>>


\layout {
  indent = 4\cm
  short-indent = 2\cm
  line-width = 6.5\cm
}

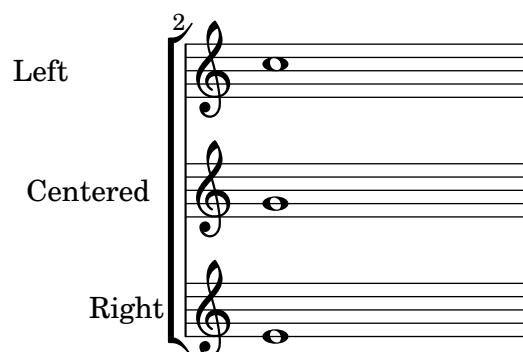
```

Left aligned  
instrument name

Centered  
instrument name

Right aligned  
instrument name



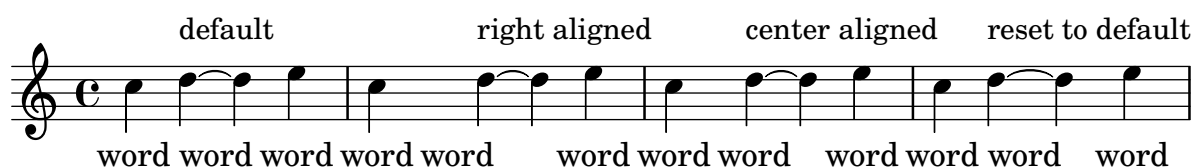


## Alineació de síl·labes amb melisma

De forma predeterminada, les síl·labes de la lletra que comencen un melisma s'alineen a l'esquerra sobre la seva nota corresponent. Es pot alterar l'alineació usant la propietat `lyricMelismaAlignment`.

```
<<
\new Staff {
  \new Voice = "vocal" \relative c' {
    \override TextScript.staff-padding = #2
    c d~\markup default d e
    c d~\markup "right aligned" d e
    c d~\markup "center aligned" d e
    c d~\markup "reset to default" d e
  }
}
\new Lyrics \lyricsto "vocal" {
  word word word
  \set lyricMelismaAlignment = #RIGHT
  word word word
  \set lyricMelismaAlignment = #CENTER
  word word word
  \unset lyricMelismaAlignment
  word word word
}
>>

\layout {
  ragged-right = ##f
}
```



## Aligning text marks to notes

By default, `TextMark` objects are aligned to so-called `NonMusicalPaperColumn` grobs, like the left edge of the staff or a bar line. They can be aligned to a note instead by setting the `non-musical` property to `#f`.

```
\layout {
```

```

line-length = 80\mm
}

{
  \textMark "mark a" c'1 |
  \textMark "mark b" c'1 |
  \break
  \override Score.TextMark.non-musical = ##f
  \textMark "mark c" c'1 |
  \textMark "mark d" c'1 |
}

```



## Posar en blanc les línies del utilitzant l'ordre `\whiteout`

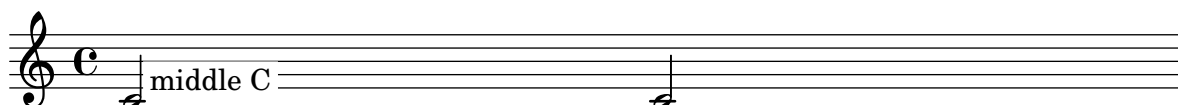
L'ordre `\whiteout` intercala un rectangle blanc a sota d'un element de marcatge. Aquest rectangle blanc no tapa a cap altre objecte gràfic, atès que les línies del pentagrama estan en una capa inferior a la de la major part dels altres objectes.

```

\layout {
  ragged-right = ##f
}

\relative c' {
  \override TextScript.extra-offset = #'(2 . 4)
  c2-\markup { \whiteout \pad-markup #0.5 "middle C" } c
}

```



## Centrar text a sota d'un regulador

Aquest exemple proporciona una funció per escriure un regulador amb text a sota, com “molto” o “poco”. El text afegit canvia la direcció d'acord amb la del regulador. L'objecte hairpin està alineat amb `DynamicText`.

L'exemple il·lustra també com modificar la manera en la qual s'imprimeix normalment un objecte, utilitzat codi de l'Scheme.

```

hairpinWithCenteredText =
#(define-music-function (text) (markup?)
  #{
    \once \override Voice.Hairpin.after-line-breaking =
      #(lambda (grob)
        (let* ((stencil (ly:hairpin::print grob))

```

```

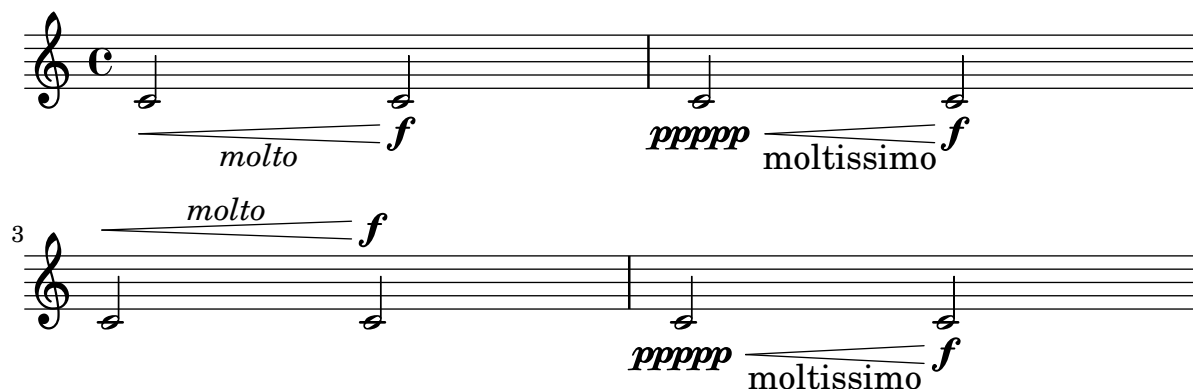
(par-y (ly:grob-parent grob Y))
(dir (ly:grob-property par-y 'direction))
(staff-line-thickness
  (ly:output-def-lookup (ly:grob-layout grob)
    'line-thickness))
(new-stencil
  (ly:stencil-aligned-to
    (ly:stencil-combine-at-edge
      (ly:stencil-aligned-to stencil X CENTER)
      Y dir
      (ly:stencil-aligned-to
        (grob-interpret-markup
          grob
          (make-fontsize-markup
            (magnification->font-size
              (+ (ly:staff-symbol-staff-space grob)
                (/ staff-line-thickness 2))))
            text))
        X CENTER))
      X LEFT))
  (staff-space (ly:output-def-lookup
    (ly:grob-layout grob) 'staff-space))
  (par-x (ly:grob-parent grob X))
  (dyn-text (grob::has-interface par-x
    'dynamic-text-interface))
  (dyn-text-stencil-x-length
    (if dyn-text
      (interval-length
        (ly:stencil-extent
          (ly:grob-property par-x 'stencil) X))
      0))
  (x-shift
    (if dyn-text (- (+ staff-space dyn-text-stencil-x-length)
      (* 0.5 staff-line-thickness))
    0)))
(ly:grob-set-property! grob 'Y-offset 0)
(ly:grob-set-property! grob
  'stencil (ly:stencil-translate-axis
    new-stencil
    x-shift X))))
#})

hairpinMolto = \hairpinWithCenteredText \markup { \italic molto }
hairpinMore = \hairpinWithCenteredText \markup { \larger moltissimo }

\relative c' {
  \hairpinMolto c2\< c\f
  \hairpinMore c2\ppppp\< c\f
  \break
  \hairpinMolto c2^\< c\f
  \hairpinMore c2\ppppp\< c\f
}

```





## Changing ottava text

Internally, `\ottava` sets the properties `ottavation` (for example, to 8va or 8vb) and `middleCPosition`. To override the text of the bracket, set `ottavation` after invoking `\ottava`.

Short text is especially useful when a brief ottava is used.

```
{
  c'2
  \ottava 1
  \set Staff.ottavation = "8"
  c''2
  \ottava 0
  c'1
  \ottava 1
  \set Staff.ottavation = "Text"
  c''1
}
```



## Canviar la família de tipus de lletra predeterminada per al text

Les famílies de tipus de lletra per al text es poden sobreescriure amb `make-pango-font-tree`.

```
%{
```

```
You may have to install additional fonts.
```

```
Red Hat Fedora: dejavu-fonts-all
```

```
Debian GNU/Linux, Ubuntu: fonts-dejavu-core
                             fonts-dejavu-extra
```

```
%}
```

```
\paper {
```

```
%{
```

```
run
```

```
lilypond -dshow-available-fonts
```

```
to show all fonts available in the process log.
```

```
%}
```

```
property-defaults.fonts.serif = "DejaVu Serif"
```

```

property-defaults.fonts.sans = "DejaVu Sans"
property-defaults.fonts.typewriter = "DejaVu Sans Mono"
}

{
g'''4^\markup {
  DejaVu Serif: \bold bold
                \italic italic
                \italic \bold { bold italic }
}
g4_\markup {
  \override #'(font-family . sans) {
    DejaVu Sans: \bold bold
                  \italic italic
                  \italic \bold { bold italic }
  }
}
g''2^\markup {
  \override #'(font-family . typewriter) {
    DejaVu Sans Mono: \bold bold
                      \italic italic
                      \italic \bold { bold italic }
  }
}
}
}

```



## Combinar indicacions dinàmiques amb marcatges textuais

Certes indicacions dinàmiques poden portar textos (com “più forte” o “piano subito”). Es poden produir usant un bloc `\markup`.

```

piuF = \markup { \italic più \dynamic f }

\markup \with-true-dimensions % work around a cropping issue
\score {
  \relative c'' {
    c2\f c-\piuF
  }
}

```



## Combining dynamics with markup texts (2)

Some dynamics may involve text indications (such as “*più f*” or “*p subito*”). These can be produced using the `make-dynamic-script` Scheme function; the resulting object behaves like a `DynamicText` grob.

See also “Combining dynamics with markup texts”.

```
piuF = #(make-dynamic-script
        #{ \markup { \normal-text \italic più \dynamic f } #})
```

```
\score {
  \relative c'' {
    c2\f c\piuF
  }
}
```



## Combinar dues parts sobre el mateix pentagrama

L'eina de combinació de parts (ordre `\partcombine`) permet la combinació de diverses parts diferents sobre el mateix pentagrama. Les indicacions textuais com ara “solo” o “a2” s'afegeixen de forma predeterminada; per treure-les, senzillament heu d'establir la propietat `printPartCombineTexts` al valor “fals”. Per a partitures vocals (com himnes), no cal afegir els textos “solo” o “a2”, per la qual cosa s'han de deshabilitar. No obstant, podria ser millor no usar-lo si hi ha solos, perquè no s'indicaran. En aquests casos podria ser preferible la notació polifònica estàndard.

Aquest fragment de codi presenta les tres formes en las quals es poden imprimir dues parts sobre un sol pentagrama: polifonia estàndard, `\partcombine` sense textos, i `\partcombine` amb textos.

```
musicUp = \relative c'' {
  \time 4/4
  a4 c4.( g8) a4 |
  g4 e' g,( a8 b) |
  c b a2.
}
```

```
musicDown = \relative c'' {
  g4 e4.( d8) c4 |
  r2 g'4( f8 e) |
  d2 \stemDown a
}
```

```
\score {
  <<
    \new Staff \with {
      instrumentName = "standard polyphony"
    } << \musicUp \\\musicDown >>

    \new Staff \with {
      instrumentName =
```

```

\markup { \typewriter "\\partCombine" without text}
printPartCombineTexts = ##f
} \partCombine \musicUp \musicDown

\new Staff \with {
  instrumentName =
    \markup { \typewriter "\\partCombine" with text}
} \partCombine \musicUp \musicDown
>>

\layout {
  indent = 6.0\cm
  \context {
    \Score
    % Setting this to a large value avoids a bar line at the
    % beginning that would connect the three staves otherwise.
    \override SystemStartBar.collapse-height = 30
  }
}

```

standard polyphony	
\partCombine without text	
\partCombine with text	

## Creating “real” parenthesized dynamics

Although the easiest way to add parentheses to a dynamic mark is to use a `\markup` block, this method has a downside: the created objects behave like text markups and not like dynamics.

However, it is possible to create a similar object using the equivalent Scheme code (as described in the Notation Reference), combined with the `make-dynamic-script` function. This way, the markup is regarded as a dynamic and therefore remains compatible with commands such as `\dynamicUp` or `\dynamicDown`.

```

paren =
#(define-event-function (dyn) (ly:event?)
  (make-dynamic-script
    #{ \markup \concat {
      \normal-text \italic \fontsize #2 (
        \pad-x #0.2 #(ly:music-property dyn 'text)
        \normal-text \italic \fontsize #2 )
    }
    #}))

\relative c' {

```

```
c4\paren\f c c \dynamicUp c\paren\p
}
```



## Crear elements de extensió textuals

Les ordres `\startTextSpan` i `\stopTextSpan` permeten la creació d'elements d'extensió textuals tan fàcilment com indicacions de pedal o octavacions. Sobreescrivim certes propietats de l'objecte `TextSpanner` per modificar la seva sortida.

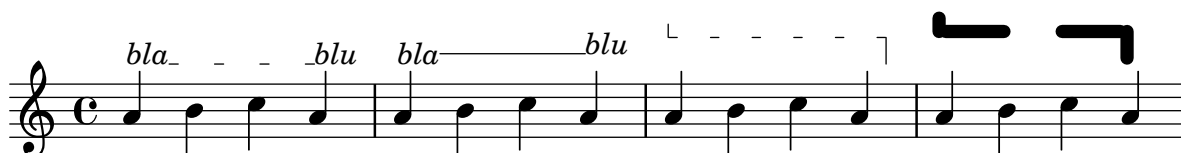
```
\paper { ragged-right = ##f }
```

```
\relative c' ' {
  \override TextSpanner.bound-details.left.text = #"bla"
  \override TextSpanner.bound-details.right.text = #"blu"
  a4 \startTextSpan
  b4 c
  a4 \stopTextSpan

  \override TextSpanner.style = #'line
  \once \override TextSpanner.bound-details.left.stencil-align-dir-y = #CENTER
  a4 \startTextSpan
  b4 c
  a4 \stopTextSpan

  \override TextSpanner.style = #'dashed-line
  \override TextSpanner.bound-details.left.text =
    \markup { \draw-line #'(0 . 1) }
  \override TextSpanner.bound-details.right.text =
    \markup { \draw-line #'(0 . -2) }
  \once \override TextSpanner.bound-details.right.padding = #-2
  a4 \startTextSpan
  b4 c
  a4 \stopTextSpan

  \override TextSpanner.dash-period = #10
  \override TextSpanner.dash-fraction = #0.5
  \override TextSpanner.thickness = #10
  a4 \startTextSpan
  b4 c
  a4 \stopTextSpan
}
```



## Demonstrating all \header fields

A demonstration of all header fields that LilyPond defines by default. Thanks to setting `print-all-headers` to `#t`, much more fields as usual are displayed, indicating the hierarchy of `\header` blocks.


```
\paper {
  #(set-paper-size "a6" 'landscape)
  print-all-headers = ##t
}

\book {
  \header {
    title = "title"
    subtitle = "subtitle"
    composer = "composer"
    arranger = "arranger"
    instrument = "instrument"
    meter = "meter"
    opus = "opus"
    piece = "piece"
    poet = "poet"
    copyright = "copyright"
    tagline = "tagline"
  }

  \bookpart {
    \score {
      \relative c'' { c1 | c | c | c }

      \header {
        title = "localtitle"
        subtitle = "localsubtitle"
        composer = "localcomposer"
        arranger = "localarranger"
        instrument = "localinstrument"
        meter = "localmeter"
        opus = "localopus"
        piece = "localpiece"
        poet = "localpoet"
        copyright = "localcopyright"
        tagline = "localtagline"
      }
    }
  }
}
```

	<b>title</b>	
	<b>subtitle</b>	
poet	<b>instrument</b>	composer
meter		arranger
	<b>localtitle</b>	
	<b>localsubtitle</b>	
localpoet	<b>localinstrument</b>	localcomposer
localmeter		localarranger
localpiece		localopus



	copyright	
	tagline	

## Inserir PostScript nadiu dins d'un bloc \markup

Es pot inserir codi PostScript directament dins d'un bloc \markup.

```
\relative c'' {
  a2-\markup \postscript "0 3 moveto
                        5 2 rlineto
                        stroke"
  -\markup \postscript "[1 1] 0 setdash
                        0 0 moveto
                        5 2 rlineto
                        stroke"
  b2-\markup \postscript "1 1 moveto
                        0 0 1 2 8 4 10 2 rcurveto
                        stroke"
  a'1
}
```



## Donar format a síl·labes de la lletra

És possible usar el mode de marcatge per donar format a síl·labes individualment dins de la lletra.

```
mel = \relative c'' { c4 c c c c1 }
lyr = \lyricmode {
  Your lyrics \markup { \italic can }
  \markup { \with-color #red contain }
  \markup { \fontsize #8 \bold Markup! }
}
```

```
<<
\new Voice = "melody" \mel
\new Lyrics \lyricsto "melody" \lyr
>>
```



## Com posar lligadures entre síl·labes de la lletra

Es pot fer separant les síl·labes mitjançant símbols de títol corb.

```
\lyrics {
  wa~o~a
}

wa_o_a
```

## Alineació de la lletra

L'alineació horitzontal de la lletra es pot ajustar sobreescrivint la propietat `self-alignment-X` de l'objecte `LyricText`. #-1 és esquerra, #0 és centrat #1 es dreta; tanmateix, podem usar també `#LEFT`, `#CENTER` i `#RIGHT`.

```
\layout {
  ragged-right = ##f
}

\relative c'' {
  c1 c c c
}

\addlyrics {
  \once \override LyricText.self-alignment-X = #LEFT
  "left-aligned"
  \once \override LyricText.self-alignment-X = #CENTER
  "centered"
  \once \override LyricText.self-alignment-X = 1
  "right-aligned"
  \once \override LyricText.self-alignment-X = #-1.5
  "very right"
}
```



## Markup list

Text that can spread over pages is entered with the `\markuplist` command. The `\paragraph` markup command defined in the snippet indents its argument before calling `\justified-lines`.

```
#{set-default-paper-size "a6" 'landscape)
```



```

\paper {
  line-width = 11\cm
  tagline = ##f
}

#(define-markup-list-command (paragraph layout props args) (markup-list?)
  (interpret-markup-list layout props
    (make-justified-lines-markup-list (cons (make-hspace-markup 2) args))))

\book { % for correct rendering in the PDF documentation
  % Candide, Voltaire
  \markuplist {
    \override-lines #'(baseline-skip . 2.5) {
      \paragraph {
        Il y avait en Westphalie, dans le château de M. le baron de
        Thunder-ten-tronckh, un jeune garçon à qui la nature avait donné
        les mœurs les plus douces. Sa physionomie annonçait son âme.
        Il avait le jugement assez droit, avec l'esprit le plus
        \concat { simple \hspace #.3 ; }
        c'est, je crois, pour cette raison qu'on le nommait Candide. Les
        anciens domestiques de la maison soupçonnaient qu'il était fils
        de la sœur de monsieur le baron et d'un bon et honnête
        gentilhomme du voisinage, que cette demoiselle ne voulut jamais
        épouser parce qu'il n'avait pu prouver que soixante et onze
        quartiers, et que le reste de son arbre généalogique avait été
        perdu par l'injure du temps.
      }
      \vspace #.3
      \paragraph {
        Monsieur le baron était un des plus puissants seigneurs de la
        Westphalie, car son château avait une porte et des fenêtres. Sa
        grande salle même était ornée d'une tapisserie. Tous les chiens
        de ses basses-cours composaient une meute dans le
        \concat { besoin \hspace #.3 ; }
        ses palefreniers étaient ses
        \concat { piqueurs \hspace #.3 ; }
        le vicaire du village était
        son grand-aumônier. Ils l'appelaient tous monseigneur, et ils
        riaient quand il faisait des contes.
      }
    }
  }
}

```

Il y avait en Westphalie, dans le château de M. le baron de Thunder-ten-tronckh, un jeune garçon à qui la nature avait donné les mœurs les plus douces. Sa physionomie annonçait son âme. Il avait le jugement assez droit, avec l'esprit le plus simple; c'est, je crois, pour cette raison qu'on le nommait Candide. Les anciens domestiques de la maison soupçonnaient qu'il était fils de la sœur de monsieur le baron et d'un bon et honnête gentilhomme du voisinage, que cette demoiselle ne voulut jamais épouser parce qu'il n'avait pu prouver que soixante et onze quartiers, et que le reste de son arbre généalogique avait été perdu par l'injure du temps.

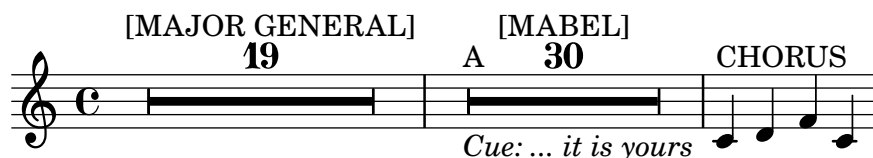
Monsieur le baron était un des plus puissants seigneurs de la Westphalie, car son château avait une porte et des fenêtres. Sa grande salle même était ornée d'une tapisserie. Tous les chiens de ses basses-cours composaient une meute dans le besoin; ses palefreniers étaient ses piqueurs; le vicaire du village était son grand-aumônier. Ils l'appelaient tous monseigneur, et ils riaient quand il faisait des contes.

## Marcatge de silencis multicompass

Els elements de marcatge aplicats a un silenci multicompass se centren a sobre o a sota del silenci. Els elements de marcatge extensos que s'adjunten a silencis multicompass no produeixen l'expansió del comàs. Per expandir un silenci multicompass de forma que càpiga tot el marcatge, utilitzeu un acord buit amb un marcatge aplicat abans del silenci multicompass.

El text aplicat a un silenci separador d'aquesta forma s'alinea per l'esquerra a la posició en la qual la nota estaria situada dins del compass, però si la longitud del compass està determinada per la longitud del text, el text apareixerà centrat.

```
\relative c' {
  \compressMMRests {
    \textLengthOn
    <>^\markup { [MAJOR GENERAL] }
    R1*19
    <>_\markup { \italic { Cue: ... it is yours } }
    <>^\markup { A }
    R1*30^\markup { [MABEL] }
    \textLengthOff
    c4^\markup { CHORUS } d f c
  }
}
```



## Of the ubiquity of markup objects

Text objects are entered either as simple strings between double quotes or as `\markup` blocks that can accept a variety of advanced text formatting and graphical enhancements.

As such, markup blocks may be used:

- in any `TextScript` object (attached to notes with `-`, `^` or `_`),

- in any TextMark introduced with the `\textMark` keyword, or `\textEndMark` command, or other similar objects such as MetronomeMark introduced with `\tempo`,
- as standalone markup blocks, entered at the top level outside of any `\score` block,
- in any definition inside the `\header` block (e.g., title, subtitle, composer) or in some variables defined inside the `\paper` block such as `evenHeaderMarkup` for page numbers.

`\markup` may additionally be used for lyrics, in chord names, and as dynamics. In fact, it is possible to use `\markup` to customize the appearance of virtually any object, as demonstrated in this example using various methods.

```
\paper {
  paper-width = 8\cm
  paper-height = 8\cm
}

\header {
  title = \markup "Title"
  tagline = \markup "(tagline)"
}

\markup "Top-level markup"

dyn = #(make-dynamic-script #{ \markup \serif "DynamicText" #})

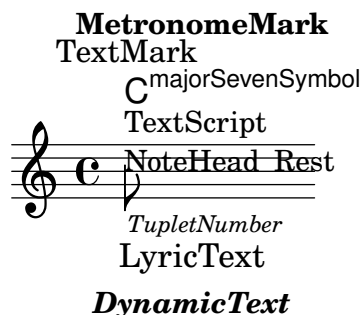
<<
  \new ChordNames \with {
    majorSevenSymbol = \markup "majorSevenSymbol"
  } \chordmode { c1:maj7 }
  \new Staff {
    \tempo \markup "MetronomeMark"
    \textMark \markup "TextMark"

    \once \override TupletNumber.text = \markup "TupletNumber"
    \tuplet 3/2 {
      \once \override NoteHead.stencil = #ly:text-interface::print
      \once \override NoteHead.text = \markup \lower #0.5 "NoteHead"
      c' '8^\markup "TextScript"

      \once \override Rest.stencil = #(lambda (grob)
        (grob-interpret-markup grob #{ \markup "Rest" #}))
      r4
    }
  }
  \new Lyrics \lyricmode { \markup "LyricText" 1 }
  \new Dynamics { s1\dyn }
>>
```

## Title

Top-level markup



## Imprimir el número de versió

Introduint la sortida de `lilypond-version` en la lletra d'una cançó, és possible imprimir el número de versió del LilyPond dins d'una partitura, o en un document generat amb `lilypond-book`. Una altra possibilitat és afegir el número de versió al final de la doc-string, d'aquesta forma:

```
\markup { Processed with LilyPond version #(lilypond-version) }
```

Processed with LilyPond version 2.25.33

## Plantilla de piano amb lletra centrada

En comptes de tenir un pentagrama dedicat a la melodia i la lletra, la lletra es pot centrar entre els pentagrames d'un sistema de piano.

```
upper = \relative c'' {
  \clef treble
  \key c \major
  \time 4/4

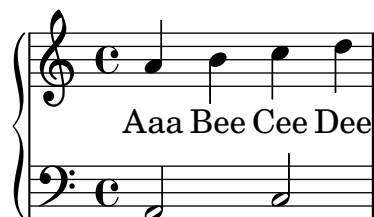
  a4 b c d
}

lower = \relative c {
  \clef bass
  \key c \major
  \time 4/4

  a2 c
}

text = \lyricmode {
  Aaa Bee Cee Dee
}

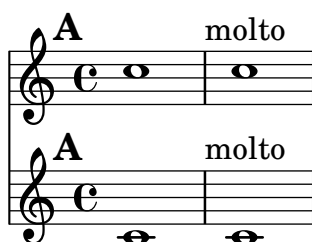
\score {
  \new PianoStaff <<
    \new Staff = upper { \new Voice = "singer" \upper }
    \new Lyrics \lyricsto "singer" \text
    \new Staff = lower { \lower }
  >>
  \layout { }
  \midi { }
}
```



## Impressió de marques d'assaig en qualsevol pentagrama

Tot i que normalment les marques d'assaig textuals sols s'imprimeixen sobre el pentagrama superior, també es poden imprimir en un altra pentagrama qualsevol.

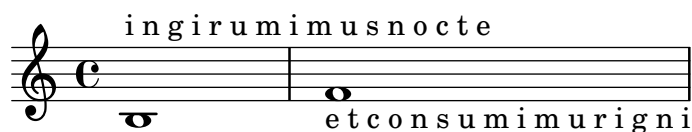
```
\score {
  <<
    \new Staff { \mark \default c'1 \textMark "molto" c'1 }
    \new Staff { \mark \default c'1 \textMark "molto" c' }
  >>
  \layout {
    \context {
      \Score
      \remove Mark_engraver
      \remove Text_mark_engraver
      \remove Staff_collecting_engraver
    }
    \context {
      \Staff
      \consists Mark_engraver
      \consists Text_mark_engraver
      \consists Staff_collecting_engraver
    }
  }
}
```



## Impressió de text de dreta a esquerra

És possible imprimir text de dreta a esquerra en un element de marcatge, com es mostra aquí.

```
{
  b1~\markup {
    \line { i n g i r u m i m u s n o c t e }
  }
  f'_~\markup {
    \override #'(text-direction . -1)
    \line { i n g i r u m i m u s n o c t e }
  }
}
```



## Posar lletra dins del pentagrama

Es poden moure les línies de lletra verticalment per imprimir-les dins del pentagrama. Les lletres es mouen amb `\override LyricText.extra-offset = #'(0 . dy)` i hi ha instruccions per moure les línies d'extensió i els guions. El desplaçament necessari s'estableix mitjançant un procés d'assaig i error.

```
<<
\new Staff <<
  \new Voice = "voc" \relative c' { \stemDown a bes c8 b c4 }
>>
\new Lyrics \with {
  \override LyricText.extra-offset = #'(0 . 8.6)
  \override LyricExtender.extra-offset = #'(0 . 8.6)
  \override LyricHyphen.extra-offset = #'(0 . 8.6)
} \lyricsto "voc" { La la -- la __ _ la }
>>
```



## Element de marcatge de text independent en dues columnes

Els textos independents es poden disposar en diverses columnes utilitzant ordres `\markup`:

```
\markup {
  \fill-line {
    \hspace #1
    \column {
      \line { 0 sacrum convivium }
      \line { in quo Christus sumitur, }
      \line { recolitur memoria passionis ejus, }
      \line { mens impletur gratia, }
      \line { futurae gloriae nobis pignus datur. }
      \line { Amen. }
    }
  }
  \hspace #2
  \column \italic {
    \line { 0 sacred feast }
    \line { in which Christ is received, }
    \line { the memory of His Passion is renewed, }
    \line { the mind is filled with grace, }
    \line { and a pledge of future glory is given to us. }
    \line { Amen. }
  }
  \hspace #1
}
```

}

O sacrum convivium  
in quo Christus sumitur,  
recolitur memoria passionis ejus,  
mens impletur gratia,  
futuræ gloriæ nobis pignus datur.  
Amen.

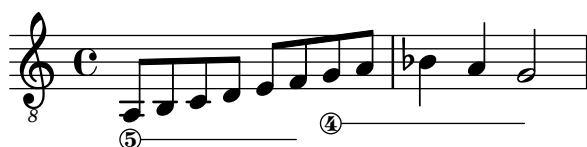
*O sacred feast  
in which Christ is received,  
the memory of His Passion is renewed,  
the mind is filled with grace,  
and a pledge of future glory is given to us.  
Amen.*

## Línies d'extensió per a nombre de corda

Fem una línia extensora per a les indicacions de nombre de corda, mostrant que una sèrie de notes s'han de tocar sobre la mateixa corda.

```
stringNumberSpanner =
  # (define-music-function (StringNumber) (string?)
    #{
      \override TextSpanner.style = #'solid
      \override TextSpanner.font-size = #-5
      \override TextSpanner.bound-details.left.stencil-align-dir-y = #CENTER
      \override TextSpanner.bound-details.left.text =
        \markup { \circle \number $StringNumber }
    #})

\relative c {
  \clef "treble_8"
  \textSpannerDown
  \stringNumberSpanner "5" a8 \startTextSpan b c d
  e f \stopTextSpan \stringNumberSpanner "4" g \startTextSpan a |
  bes4 a g2 \stopTextSpan
}
```



## Rectangle de tres segments visibles

Aquest exemple mostra com afegir una ordre de marcatge per obtenir un rectangle de tres segments visibles rodejant un element de text (o un altre element de marcatge).

```
% New command to add a three-sided box, with sides north, west, and south.
% Based on the `box-stencil` command defined in `scm/stencil.scm`.
% Note that ";;" is used to comment a line in Scheme.
#(define-public (NWS-box-stencil stencil thickness padding)
  "Add a box around STENCIL, producing a new stencil."
  (let* ((x-ext (interval-widen (ly:stencil-extent stencil X) padding))
        (y-ext (interval-widen (ly:stencil-extent stencil Y) padding))
        (y-rule (make-filled-box-stencil (cons 0 thickness) y-ext))
        (x-rule (make-filled-box-stencil
                  (interval-widen x-ext thickness) (cons 0 thickness))))
    ;; (set! stencil (ly:stencil-combine-at-edge stencil X 1 y-rule padding))
    (set! stencil (ly:stencil-combine-at-edge stencil X LEFT y-rule padding))
```

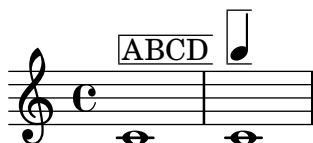
```

    (set! stencil (ly:stencil-combine-at-edge stencil Y UP x-rule 0.0))
    (set! stencil (ly:stencil-combine-at-edge stencil Y DOWN x-rule 0.0))
    stencil))

% The corresponding markup command, based on the `box` command defined
% in `scm/define-markup-commands.scm`.
#(define-markup-command (NWS-box layout props arg) (markup?)
  #:properties ((thickness 0.1) (font-size 0) (box-padding 0.2))
  "Draw a box round ARG.

Look at THICKNESS, BOX-PADDING, and FONT-SIZE properties to determine
line thickness and padding around the markup."
  (let ((pad (* (magstep font-size) box-padding))
        (m (interpret-markup layout props arg)))
    (NWS-box-stencil m thickness pad)))

\relative c' {
  c1~\markup { \NWS-box ABCD }
  c1~\markup { \NWS-box \note {4} #1.0 }
}
```



## UTF-8

Es poden usar diversos sistemes d'escriptura per a textos (com ara títols o la lletra de les cançons) si s'introdueixen amb la codificació UTF-8, i utilitzant un motor basat en el Pango. Depenent dels tipus de lletra instal·lats, aquest fragment compon textos en búlgar (ciríl·lic), hebreu, japonès i portuguès.

```

%{
You may have to install additional fonts.

Red Hat Fedora: linux-libertine-fonts (Latin, Cyrillic, Hebrew)
                google-noto-serif-jp-fonts (Japanese)

Debian GNU/Linux, Ubuntu: fonts-linuxlibertine (Latin, Cyrillic, Hebrew)
                           fonts-noto-cjk (Japanese)

%}

% 'Linux Libertine' fonts also contain Cyrillic and Hebrew glyphs.
\paper {
  property-defaults.fonts.serif =
    "Linux Libertine O, Noto Serif CJK JP, Noto Serif JP"
}

bulgarian = \lyricmode {
  Жълтата дюля беше щастлива, че пухът, който цъфна, замръзна като гьон.
}
```



```

hebrew = \lyricmode {
    .
}

japanese = \lyricmode {

}

% "a nice song for you"
portuguese = \lyricmode {
    à vo -- cê uma can -- ção le -- gal
}

\relative c' {
    c2 d
    e2 f
    g2 f
    e2 d
}

\addlyrics { \bulgarian }
\addlyrics { \hebrew }
\addlyrics { \japanese }
\addlyrics { \portuguese }

```

The image shows a musical score for a song in 4/4 time. It consists of two systems of music. Each system has a treble clef and a common time signature 'C'. The first system has four measures of music, each with a single note (half note). The notes are: C4, D4, E4, and F4. Below each note are four lines of lyrics, one for each language: Bulgarian, Hebrew, Japanese, and Portuguese. The second system also has four measures of music, each with a single note (half note). The notes are: G4, F4, E4, and D4. Below each note are four lines of lyrics, one for each language. The lyrics are aligned with the notes, with some lines having hyphens to indicate syllables spanning across measures.

Bulgarian	Hebrew	Japanese	Portuguese
Жълтата	יה	いろはにほへど	à
дюля	כיה	ちりぬるを	vo -
беше	סתם	わがよたれぞ	- cê
щастлива,	לשמור	つねならむ	uma
че	אך	うゐのおくや	can -
пухът,	תנצח	まけふこえて	- ção
който	קרפד	あさきゆめみじ	le -
цъфна,	עץ	糸ひもせず	- gal

## Plantilla per a conjunt amb lletres alineades a sobre i a sota dels pentagrames

Aquesta plantilla és, bàsicament, la mateixa que la senzilla plantilla “Conjunt vocal”, excepte que aquí totes les línies de lletra es col·loquen utilitzant `alignAboveContext` i `alignBelowContext`.

```

global = {
    \key c \major
    \time 4/4

```

```

}

sopMusic = \relative c'' {
  c4 c c8[( b)] c4
}
sopWords = \lyricmode {
  hi hi hi hi
}

altoMusic = \relative c' {
  e4 f d e
}
altoWords = \lyricmode {
  ha ha ha ha
}

tenorMusic = \relative c' {
  g4 a f g
}
tenorWords = \lyricmode {
  hu hu hu hu
}

bassMusic = \relative c {
  c4 c g c
}
bassWords = \lyricmode {
  ho ho ho ho
}

\score {
  \new ChoirStaff <<
    \new Staff = "women" <<
      \new Voice = "sopranos" { \voiceOne << \global \sopMusic >> }
      \new Voice = "altos" { \voiceTwo << \global \altoMusic >> }
    >>
    \new Lyrics \with { alignAboveContext = "women" }
      \lyricsto "sopranos" \sopWords
    \new Lyrics \with { alignBelowContext = "women" }
      \lyricsto "altos" \altoWords
    % we could remove the line about this with the line below, since
    % we want the alto lyrics to be below the alto Voice anyway.
    % \new Lyrics \lyricsto "altos" \altoWords

    \new Staff = "men" <<
      \clef bass
      \new Voice = "tenors" { \voiceOne << \global \tenorMusic >> }
      \new Voice = "basses" { \voiceTwo << \global \bassMusic >> }
    >>
    \new Lyrics \with { alignAboveContext = "men" }
      \lyricsto "tenors" \tenorWords
    \new Lyrics \with { alignBelowContext = "men" }

```

```

\lyricsto "basses" \bassWords
% again, we could replace the line above this with the line below.
% \new Lyrics \lyricsto "basses" \bassWords
>>
}

```



## Elements de marcatge per al text de les caselles de repetició usant repeatCommands

Tot i que les caselles de repetició s'especifiquen de forma òptima usant `\repeat volta`, s'ha d'usar la propietat de context `repeatCommands` en cas que el text de la casella requereixi un format més avançat amb `\markup`.

Atès que `repeatCommands` admet una llista, el mètode més senzill d'incloure elements de marcatge és usar un identificador per al text i inserir-lo a la llista d'ordres usant la sintaxi de l'Scheme `#(list (list 'volta textIdentifier))`. Les ordres de principi i fi de repetició es poden afegir com elements de llista independents:

```
voltaAdLib = \markup { \volta-number { 1. 2. 3... } \italic { ad lib. } }
```

```

\relative c' ' {
  c1
  \set Score.repeatCommands = #`((volta ,voltaAdLib) start-repeat)
  c4 b d e
  \set Score.repeatCommands = #'((volta #f) (volta "4.") end-repeat)
  f1
  \set Score.repeatCommands = #'((volta #f))
}

```



## 9 Vocal music

See also Secció “Vocal music” in *Referencia de la Notación*.

### Afegir un àmbit per veu

Es pot afegir un àmbit per cada veu. En aquest cas, l'àmbit s'ha de desplaçar manualment per evitar col·lisions.

```
\new Staff <<
  \new Voice \with {
    \consists "Ambitus_engraver"
  } \relative c' {
    \override Ambitus.X-offset = 2.0
    \voiceOne
    c4 a d e
    f1
  }
  \new Voice \with {
    \consists "Ambitus_engraver"
  } \relative c' {
    \voiceTwo
    es4 f g as
    b1
  }
}>>
```



### Afegir indicadors als pentagrames que es divideixen després d'un salt de línia

Aquest fragment de codi defineix les ordres `\splitStaffBarLine`, `convUpStaffBarLine` i `convDownStaffBarLine`, que afegeix una fletxa doble a l'últim compàs d'un pentagrama, indicant que les diverses veus disposaran d'un pentagrama propi a la línia següent.

```
#(define-markup-command (arrow-at-angle layout props angle-deg length fill)
  (number? number? boolean?)
  (let* ((PI-OVER-180 (/ (atan 1 1) 34))
        (degrees->radians (lambda (degrees) (* degrees PI-OVER-180)))
        (angle-rad (degrees->radians angle-deg))
        (target-x (* length (cos angle-rad)))
        (target-y (* length (sin angle-rad))))
    (interpret-markup layout props
      (markup
        #:translate (cons (/ target-x 2) (/ target-y 2))
        #:rotate angle-deg
        #:translate (cons (/ length -2) 0)
        #:concat (#:draw-line (cons length 0)
          #:arrow-head X RIGHT fill))))))
```

```
splitStaffBarLineMarkup = \markup \with-dimensions #'(0 . 0) #'(0 . 0) {
```

```

\combine
\arrow-at-angle #45 #(\sqrt 8) ##t
\arrow-at-angle #-45 #(\sqrt 8) ##t
}

splitStaffBarLine = {
  \once \override Staff.BarLine.stencil =
  #(\lambda (grob)
    (ly:stencil-combine-at-edge
      (ly:bar-line::print grob)
      X RIGHT
      (grob-interpret-markup grob splitStaffBarLineMarkup)
      0))
  \break
}

convDownStaffBarLine = {
  \once \override Staff.BarLine.stencil =
  #(\lambda (grob)
    (ly:stencil-combine-at-edge
      (ly:bar-line::print grob)
      X RIGHT
      (grob-interpret-markup grob #{
        \markup\with-dimensions #'(0 . 0) #'(0 . 0) {
          \translate #'(0 . -.13)\arrow-at-angle #-45 #(\sqrt 8) ##t
        }#}))
    0))
  \break
}

convUpStaffBarLine = {
  \once \override Staff.BarLine.stencil =
  #(\lambda (grob)
    (ly:stencil-combine-at-edge
      (ly:bar-line::print grob)
      X RIGHT
      (grob-interpret-markup grob #{
        \markup\with-dimensions #'(0 . 0) #'(0 . 0) {
          \translate #'(0 . .14)\arrow-at-angle #45 #(\sqrt 8) ##t
        }#}))
    0))
  \break
}

\paper {
  indent = 10\mm
  short-indent = 10\mm
  line-width = 8\cm
}

separateSopranos = {
  \set Staff.instrumentName = "AI AII"

```

```

    \set Staff.shortInstrumentName = "AI AII"
    \splitStaffBarLine
    \change Staff = "up"
}
convSopranos = {
    \convDownStaffBarLine
    \change Staff = "shared"
    \set Staff.instrumentName = "S A"
    \set Staff.shortInstrumentName = "S A"
}

sI = {
    \voiceOne
    \repeat unfold 4 f''2
    \separateSopranos
    \repeat unfold 4 g''2
    \convSopranos
    \repeat unfold 4 c''2
}
sII = {
    s1*2
    \voiceTwo
    \change Staff = "up"
    \repeat unfold 4 d''2
}
aI = {
    \voiceTwo
    \repeat unfold 4 a'2
    \voiceOne
    \repeat unfold 4 b'2
    \convUpStaffBarLine
    \voiceTwo
    \repeat unfold 4 g'2
}
aII = {
    s1*2
    \voiceTwo
    \repeat unfold 4 g'2
}
ten = {
    \voiceOne
    \repeat unfold 4 c'2
    \repeat unfold 4 d'2
    \repeat unfold 4 c'2
}
bas = {
    \voiceTwo
    \repeat unfold 4 f2
    \repeat unfold 4 g2
    \repeat unfold 4 c2
}

```

```

\markup \pad-x #3 % avoid cropping
\score {
  <<
    \new ChoirStaff <<
      \new Staff = up \with {
        instrumentName = "SI SII"
        shortInstrumentName = "SI SII"
      } {
        s1*4
      }

      \new Staff = shared \with {
        instrumentName = "S A"
        shortInstrumentName = "S A"
      } <<
        \new Voice = sopI \sI
        \new Voice = sopII \sII
        \new Voice = altI \aI
        \new Voice = altII \aII
      >>
      \new Lyrics \with {
        alignBelowContext = up
      }
      \lyricsto sopII { e f g h }
      \new Lyrics \lyricsto altI { a b c d e f g h i j k l }

      \new Staff = men \with {
        instrumentName = "T B"
        shortInstrumentName = "T B"
      } <<
        \clef F
        \new Voice = ten \ten
        \new Voice = bas \bas
      >>
      \new Lyrics \lyricsto bas { a b c d e f g h i j k l }
    >>
  >>

  \layout {
    \context {
      \Staff \RemoveEmptyStaves
      \override VerticalAxisGroup.remove-first = ##t
    }
  }
}

```

The image displays three musical systems, each with a vocal part and a piano accompaniment part. The first system shows Soprano (S A) and Tenor/Bass (T B) parts with notes a, b, c, d. The second system shows Soprano I (SI SII) and Alto I (AI AII) parts with notes e, f, g, h, and a Tenor/Bass (T B) part with notes e, f, g, h. The third system shows Soprano (S A) and Tenor/Bass (T B) parts with notes i, j, k, l. Each staff has a bracket on the left indicating the group of parts.

## Afegir notes guia orquestrals a una partitura vocal

Aquest exemple mostra una forma de simplificar l'addició de moltes notes guia orquestrals a la reducció de piano a una partitura vocal. La funció musical `\cueWhile` agafa quatre arguments: la música de la qual es pren la citació, com ve definida per `\addQuote`, el nom a inserir abans de la notes guia, i després `#UP` o `#DOWN` per especificar `\voiceOne` amb el nom a sobre del pentagrama o bé `\voiceTwo` amb el nom a sota del pentagrama, i finalment la música de piano amb la qual les notes guia han d'aparèixer en paral·lel. El nom de l'instrument citat es posiciona a l'esquerra de les notes guia. Es poden citar molts passatges com a guia, però no es poden superposar en el temps entre ells.

```
cueWhile =
#(define-music-function
  (instrument name dir music)
  (string? string? ly:dir? ly:music?)
  #{
    \cueDuring $instrument #dir {
      \once \override TextScript.self-alignment-X = #RIGHT
```



```

        \once \override TextScript.direction = $dir
        <>-\markup { \tiny #name }
        $music
    }
    #})

flute = \relative c'' {
    \transposition c'
    s4 s4 e g
}
\addQuote "flute" { \flute }

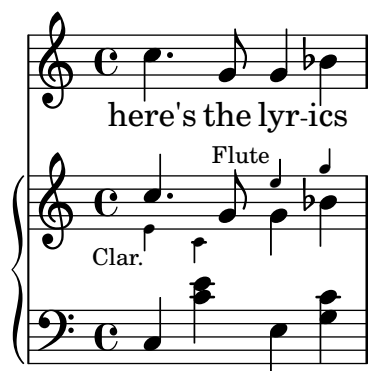
clarinet = \relative c' {
    \transposition bes
    fis4 d d c
}
\addQuote "clarinet" { \clarinet }

singer = \relative c'' { c4. g8 g4 bes4 }
words = \lyricmode { here's the lyr -- ics }

pianoRH = \relative c'' {
    \transposition c'
    \cueWhile "clarinet" "Clar." #DOWN { c4. g8 }
    \cueWhile "flute" "Flute" #UP { g4 bes4 }
}
pianoLH = \relative c { c4 <c' e> e, <g c> }

\score {
    <<
        \new Staff {
            \new Voice = "singer" {
                \singer
            }
        }
        \new Lyrics {
            \lyricsto "singer"
            \words
        }
        \new PianoStaff <<
            \new Staff {
                \new Voice {
                    \pianoRH
                }
            }
            \new Staff {
                \clef "bass"
                \pianoLH
            }
        >>
    >>
}

```



## Adjusting vertical spacing of lyrics

This snippet shows how to bring the lyrics line closer to the staff.

```
music = \relative c' { c4 d e f | g4 f e d | c1 }
text = \lyricmode { aa aa aa aa aa aa aa aa }
```

```
<<
\new Staff \new Voice = melody \music
% Default layout:
\new Lyrics \lyricsto melody \text

\new Staff \new Voice = melody \music
% Reducing the minimum space below the staff and above the lyrics.
\new Lyrics \with {
  \override VerticalAxisGroup.nonstaff-relatedstaff-spacing =
    #'((basic-distance . 1))
} \lyricsto melody \text
>>
```



## Alineació de síl·labes amb melisma

De forma predeterminada, les síl·labes de la lletra que comencen un melisma s'alineen a l'esquerra sobre la seva nota corresponent. Es pot alterar l'alineació usant la propietat `lyricMelismaAlignment`.

```
<<
\new Staff {
  \new Voice = "vocal" \relative c'' {
    \override TextScript.staff-padding = #2
    c d~\markup default d e
    c d~\markup "right aligned" d e
    c d~\markup "center aligned" d e
    c d~\markup "reset to default" d e
  }
}
```

```

}
\new Lyrics \lyricsto "vocal" {
  word word word
  \set lyricMelismaAlignment = #RIGHT
  word word word
  \set lyricMelismaAlignment = #CENTER
  word word word
  \unset lyricMelismaAlignment
  word word word
}
>>

\layout {
  ragged-right = ##f
}

```



## Indicacions de tessitura

Les indicacions d'àmbit o tessitura indiquen rangs d'altures per a les veus.

Les alteracions accidentals sols es mostren si no formen part de l'armadura de tonalitat. Els objectes gràfics `AmbitusNoteHead` també tenen línies addicionals.

```

\layout {
  \context {
    \Voice
    \consists "Ambitus_engraver"
  }
}

<<
\new Staff {
  \relative c' {
    \time 2/4
    c4 f'
  }
}
\new Staff {
  \relative c' {
    \time 2/4
    \key d \major
    cis4 as'
  }
}
>>

```



## Ambitus after key signature

By default, ambitus are positioned at the left of the clef. The `\ambitusAfter` function allows for changing this placement. Syntax is `\ambitusAfter grob-interface`; see Graphical Object Interfaces (<https://lilypond.org/doc/v2.24/Documentation/internals/graphical-object-interfaces>) for a list of possible values for *grob-interface*.

A common use case is printing the ambitus between key signature and time signature.

```
\new Staff \with {
  \consists Ambitus_engraver
} \relative {
  \ambitusAfter key-signature
  \key d \major
  es'8 g bes cis d2
}
```



## Àmbits amb diverses veus

L'addició del gravador `Ambitus_engraver` al context de `Staff` crea un sol àmbit per pentagrama, fins i tot en el cas de pentagrames amb diverses veus.

```
\new Staff \with {
  \consists "Ambitus_engraver"
}
<<
  \new Voice \relative c'' {
    \voiceOne
    c4 a d e
    f1
  }
  \new Voice \relative c' {
    \voiceTwo
    es4 f g as
    b1
  }
}>>
```



## Ancient notation template – modern transcription of Gregorian music

This example demonstrates how to do modern transcription of Gregorian music. Gregorian music has no measure, no stems; it uses only half and quarter note heads, and special marks, indicating rests of different length.

```
chant = \relative c' {
  \set Score.timing = ##f
  f4 a2 \divisioMinima
  g4 b a2 f2 \divisioMaior
  g4( f) f( g f) a2 \finalis \break
  f4 a2 \divisioMinima
  g4 b a2 f2 \divisioMaior
  g4( f) f( g a) g2( f) \finalis
}

verba = \lyricmode {
  Lo -- rem ip -- sum do -- lor sit a -- met,
  lo -- rem ip -- sum do -- lor sit a -- met.
}

\score {
  \new GregorianTranscriptionStaff <<
    \new GregorianTranscriptionVoice = "melody" \chant
    \new GregorianTranscriptionLyrics = "one" \lyricsto melody \verba
  >>
}
```



## Plantilla de salm del cant anglicà

Aquesta plantilla mostra una forma de preparar un càntic salmòdic anglicà. També mostra com es poden afegir estrofes addicionals com text independent per sota de la música. Les dues estrofes es codifiquen en estils diferents per il·lustrar més possibilitats.

```
SopranoMusic = \relative g' {
  g1 | c2 b | a1 | \bar "||"
  a1 | d2 c | c b | c1 | \bar "||"
}

AltoMusic = \relative c' {
  e1 | g2 g | f1 |
  f1 | f2 e | d d | e1 |
}

TenorMusic = \relative a {
```

```

    c1 | c2 c | c1 |
    d1 | g,2 g | g g | g1 |
}

BassMusic = \relative c {
    c1 | e2 e | f1 |
    d1 | b2 c | g' g | c,1 |
}

global = {
    \time 2/2
}

dot = \markup {
    \raise #0.7 \musicglyph "dots.dot"
}

tick = \markup {
    \raise #1 \fontsize #-5 \musicglyph "scripts.rvarcomma"
}

% Use markup to center the chant on the page
\markup \fill-line {
    \score { % centered
        \new ChoirStaff <<
            \new Staff <<
                \global
                \clef "treble"
                \new Voice = "Soprano" <<
                    \voiceOne
                    \SopranoMusic
                >>
                \new Voice = "Alto" <<
                    \voiceTwo
                    \AltoMusic
                >>
            >>
        >>

        \new Staff <<
            \clef "bass"
            \global
            \new Voice = "Tenor" <<
                \voiceOne
                \TenorMusic
            >>
            \new Voice = "Bass" <<
                \voiceTwo
                \BassMusic
            >>
        >>
    >>
}

```

```

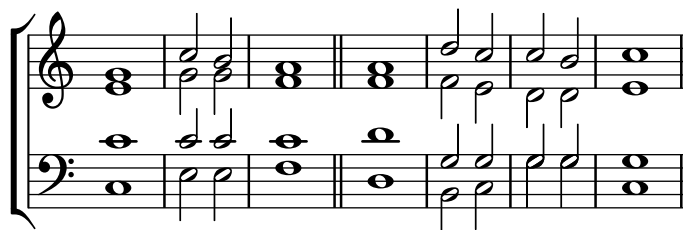
\layout {
  \context {
    \Score
    \override SpacingSpanner.base-shortest-duration =
      \musicLength 2
  }
  \context {
    \Staff
    \remove "Time_signature_engraver"
  }
}
} % End score
} % End markup

\markup \fill-line {
  \left-column {
    \null \null \null
    \line { \fontsize #5 0
      \fontsize #3 come
      let us \bold sing | unto \dot the | Lord : let }
    \line { us heartily \concat { re \bold joice }
      in the | strength of | our }
    \line { sal | vation. }

    \null

    \line { \hspace #2.5 8. Today if ye will hear his voice * }
    \line { \concat { \bold hard en }
      \tick not your \tick hearts : as in the pro- }
    \line { vocation * and as in the \bold day of tempt- \tick }
    \line { -ation \tick in the \tick wilderness. }
  }
}

```



**O** come let us **sing** | unto • the | Lord : let  
us heartily **rejoice** in the | strength of | our  
sal | vation.

8. Today if ye will hear his voice \*  
**harden** ' not your ' hearts : as in the pro-  
vocation \* and as in the **day** of tempt- '  
-ation ' in the ' wilderness.

## Arranging separate lyrics on a single line

Sometimes you may want to put lyrics for different performers on a single line: where there is rapidly alternating text, for example. This snippet shows how it can be done with adjusting the `nonstaff-nonstaff-spacing` property of the `VerticalAxisGroup` grob.

```
\layout {
  \context {
    \Lyrics
    \override VerticalAxisGroup
      .nonstaff-nonstaff-spacing
      .minimum-distance = ##f
  }
}

aliceSings = \markup { \smallCaps "Alice" }
eveSings = \markup { \smallCaps "Eve" }

<<
\new Staff <<
  \new Voice = "alice" {
    f'4^\aliceSings g' r2 |
    s1 |
    f'4^\aliceSings g' r2 |
    s1 | \break
    % ...

    \voiceOne
    s2 a'8^\aliceSings a' b'4 |
    \oneVoice
    g'1
  }
  \new Voice = "eve" {
    s1 |
    a'2^\eveSings g' |
    s1 |
    a'2^\eveSings g'
    % ...

    \voiceTwo
    f'4^\eveSings a'8 g' f'4 e' |
    \oneVoice
    s1
  }
}
>>

\new Lyrics \lyricsto "alice" {
  may -- be
  sec -- ond
  % ...
  Shut up, you fool!
}
```



```

\new Lyrics \lyricsto "eve" {
  that the
  words are
  % ...
  ...and then I was like--
}
>>

```

ALICE EVE ALICE EVE

may - be that the sec - ond words are

5 EVE ALICE

...and then I was Shut up, you like- fool!

## Modificar el tipus de lletra per a cada estrofa

Es poden canviar els tipus de lletra de forma independent per a cada estrofa, inclosa la font que s'usa per imprimir el número d'estrofa.

```

%{
  You may have to install additional fonts.

  Red Hat Fedora: dejavu-fonts-all

  Debian GNU/Linux, Ubuntu: fonts-dejavu-core
                             fonts-dejavu-extra
}%

\relative c' ' {
  \time 3/4
  g2 e4
  a2 f4
  g2.
}
\addlyrics {
  \set stanza = #"1. "
  Hi, my name is Bert.
}
\addlyrics {
  \override StanzaNumber.fonts.serif = "DejaVu Sans"
  \set stanza = #"2. "
  \override LyricText.font-family = #'typewriter
  Oh, ché -- ri, je t'aime
}

```



1. Hi, my name is Bert.
2. Oh, ché-ri, jet'aime

## Chant or psalm notation

This form of notation is used for psalm chant, where verses are not always of the same length.

```
stemOff = \hide Staff.Stem
stemOn  = \undo \stemOff
```

```
\score {
  \new Staff \with { \remove "Time_signature_engraver" }
  {
    \key g \minor
    \cadenzaOn
    \stemOff a'\breve bes'4 g'4
    \stemOn a'2 \section
    \stemOff a'\breve g'4 a'4
    \stemOn f'2 \section
    \stemOff a'\breve^\markup { \italic flexe }
    \stemOn g'2 \fine
  }
}
```



## Forçar la visibilitat dels guions separadors de síl·labes

Si el LilyPond considera que no hi ha lloc suficient per a un guionet separador de síl·labes, l'ometrà. Es pot sobreescriure aquest comportament amb la propietat `minimum-distance` de `LyricHyphen`.

```
\relative c'' {
  c32 c c c
  c32 c c c
  c32 c c c
  c32 c c c
}
\addlyrics {
  syl -- lab word word
  \override LyricHyphen.minimum-distance = #1.0
  syl -- lab word word
  \override LyricHyphen.minimum-distance = #2.0
  syl -- lab word word
  \revert LyricHyphen.minimum-distance
  syl -- lab word word
}
```

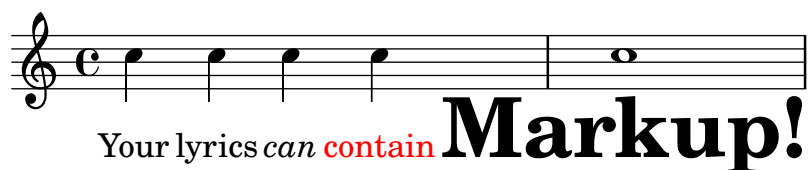


## Donar format a síl·labes de la lletra

És possible usar el mode de marcatge per donar format a síl·labes individualment dins de la lletra.

```
mel = \relative c'' { c4 c c c c1 }
lyr = \lyricmode {
  Your lyrics \markup { \italic can }
  \markup { \with-color #red contain }
  \markup { \fontsize #8 \bold Markup! }
}
```

```
<<
  \new Voice = "melody" \mel
  \new Lyrics \lyricsto "melody" \lyr
>>
```



## Com posar lligadures entre síl·labes de la lletra

Es pot fer separant les síl·labes mitjançant símbols de títlle corb.

```
\lyrics {
  wa~o~a
}

wa o a
```

## Plantilla per a himnes

Aquest fragment de codi mostra una forma de preparar un himne quan cada línia comença amb un compàs parcial. També mostra com afegir els versos com a text independent a sota de la música.

```
Timeline = {
  \time 4/4
  \tempo 4=96
  \partial 2
  s2 | s1 | s2 \breathe s2 | s1 | s2 \caesura \break
  s2 | s1 | s2 \breathe s2 | s1 | s2 \fine
}
```

```
SopranoMusic = \relative g' {
  g4 g | g g g g | g g g g | g g g g | g2
  g4 g | g g g g | g g g g | g g g g | g2
}
```

```

AltoMusic = \relative c' {
  d4 d | d d d d | d d d d | d d d d | d2
  d4 d | d d d d | d d d d | d d d d | d2
}

TenorMusic = \relative a {
  b4 b | b b b b | b b b b | b b b b | b2
  b4 b | b b b b | b b b b | b b b b | b2
}

BassMusic = \relative g {
  g4 g | g g g g | g g g g | g g g g | g2
  g4 g | g g g g | g g g g | g g g g | g2
}

global = {
  \key g \major
}

\score { % Start score
  \new PianoStaff << % Start pianostaff
    \new Staff << % Start Staff = RH
      \global
      \clef "treble"
      \new Voice = "Soprano" << % Start Voice = "Soprano"
        \Timeline
        \voiceOne
        \SopranoMusic
      >> % End Voice = "Soprano"
      \new Voice = "Alto" << % Start Voice = "Alto"
        \Timeline
        \voiceTwo
        \AltoMusic
      >> % End Voice = "Alto"
    >> % End Staff = RH

  \new Staff << % Start Staff = LH
    \global
    \clef "bass"
    \new Voice = "Tenor" << % Start Voice = "Tenor"
      \Timeline
      \voiceOne
      \TenorMusic
    >> % End Voice = "Tenor"
    \new Voice = "Bass" << % Start Voice = "Bass"
      \Timeline
      \voiceTwo
      \BassMusic
    >> % End Voice = "Bass"
  >> % End Staff = LH
>> % End pianostaff

```

```

} % End score

\markup \fill-line {
  \left-column {
    "This is line one of the first verse"
    "This is line two of the same"
    \null
    "And here's line one of the second verse"
    "And the next line of the same"
  }
}

\layout {
  \context {
    \Score
    caesuraType = #'((bar-line . "||"))
    fineBarType = "||"
  }
}

\paper { % Start paper block
  indent = 0 % don't indent first system
  line-width = 130 % shorten line length to suit music
  tagline = ##f % Don't print tag line, can be removed
} % End paper block

```



This is line one of the first verse  
This is line two of the same

And here's line one of the second verse  
And the next line of the same

## Alineació de la lletra

L'alineació horitzontal de la lletra es pot ajustar sobreescrivint la propietat `self-alignment-X` de l'objecte `LyricText`. #-1 és esquerra, #0 és centrat #1 es dreta; tanmateix, podem usar també `#LEFT`, `#CENTER` i `#RIGHT`.

```
\layout {
```

```

    ragged-right = ##f
}

\relative c'' {
  c1 c c c
}

\addlyrics {
  \once \override LyricText.self-alignment-X = #LEFT
  "left-aligned"
  \once \override LyricText.self-alignment-X = #CENTER
  "centered"
  \once \override LyricText.self-alignment-X = 1
  "right-aligned"
  \once \override LyricText.self-alignment-X = #-1.5
  "very right"
}

```



## Marking notes of spoken parts with a cross on the stem (Sprechstimme)

This example shows how to put crosses on stems. Mark the beginning of a spoken section with the command `\speakOn` and end it with `\speakOff`.

```

speakOn = \override Stem.stencil =
  #(lambda (grob)
    (let* ((x-parent (ly:grob-parent grob X))
      (is-rest? (ly:grob? (ly:grob-object x-parent 'rest))))
      (if is-rest?
        empty-stencil
        (ly:stencil-combine-at-edge
          (ly:stem::print grob)
          Y
          (- (ly:grob-property grob 'direction))
          (grob-interpret-markup
            grob
            (markup #:center-align #:fontsize -4
              #:musicglyph "noteheads.s2cross"))
          -1.7))))))

speakOff = \revert Stem.stencil

\new Staff {
  \relative c'' {
    a4 b a c
    \speakOn
    g4 f r g8 a
    b4 r r8 d e4
  }
}

```

```

\speakingOff
c4 a g f
}
}

```



## Plantilla d'orquestra amb cor i piano

Aquesta plantilla mostra l'ús de contextos `StaffGroup` i `GrandStaff` niuats per sub-agrupar instruments del mateix tipus, i una forma d'usar `\transpose` de manera que unes variables continguin la música per a instruments transpositors en afinació de concert.

```

#(set-global-staff-size 17)

```

```

\paper {
  indent = 3.0\cm % add space for instrumentName
  short-indent = 1.5\cm % add less space for shortInstrumentName
}

```

```

fluteMusic = \relative c' { \key g \major g'1 b }

```

```

% Pitches as written on a manuscript for Clarinet in A
% are transposed to concert pitch.

```

```

clarinetMusic = \transpose c' a
  \relative c'' { \key bes \major bes1 d }

```

```

trumpetMusic = \relative c { \key g \major g''1 b }

```

```

% Key signature is often omitted for horns

```

```

hornMusic = \transpose c' f
  \relative c { d'1 fis }

```

```

percussionMusic = \relative c { \key g \major g1 b }

```

```

sopranoMusic = \relative c'' { \key g \major g'1 b }
sopranoLyrics = \lyricmode { Lyr -- ics }

```

```

altoIMusic = \relative c' { \key g \major g'1 b }
altoILyrics = \sopranoLyrics
altoIIMusic = \relative c' { \key g \major g'1 b }
altoIILyrics = \lyricmode { Ah -- ah }

```

```

tenorMusic = \relative c' { \clef "treble_8" \key g \major g1 b }
tenorLyrics = \sopranoLyrics

```

```

pianoRHMus = \relative c { \key g \major g''1 b }
pianoLHMus = \relative c { \clef bass \key g \major g1 b }

```

```

violinIMusic = \relative c' { \key g \major g'1 b }
violinIIMusic = \relative c' { \key g \major g'1 b }

```

```

violaMusic = \relative c { \clef alto \key g \major g'1 b }

celloMusic = \relative c { \clef bass \key g \major g1 b }

bassMusic = \relative c { \clef "bass_8" \key g \major g,1 b }

\book {
  \score {
    <<
    \new StaffGroup = "StaffGroup_woodwinds" <<
      \new Staff = "Staff_flute" \with { instrumentName = "Flute" }
        \fluteMusic

      \new Staff = "Staff_clarinet" \with {
        instrumentName = \markup { \concat { "Clarinet in B" \flat } }
      }
      % Declare that written Middle C in the music
      % to follow sounds a concert B flat, for
      % output using sounded pitches such as MIDI.
      %\transposition bes

      % Print music for a B-flat clarinet
      \transpose bes c' \clarinetMusic
    >>

    \new StaffGroup = "StaffGroup_brass" <<
      \new Staff = "Staff_hornI" \with {
        instrumentName = "Horn in F"
      }
      % \transposition f
      \transpose f c' \hornMusic

      \new Staff = "Staff_trumpet" \with {
        instrumentName = "Trumpet in C"
      }
      \trumpetMusic
    >>

    \new RhythmicStaff = "RhythmicStaff_percussion" \with {
      instrumentName = "Percussion"
    }
    \percussionMusic

    \new PianoStaff \with {
      instrumentName = "Piano"
    } <<
      \new Staff { \pianoRHMusical }
      \new Staff { \pianoLHMusical }
    >>

    \new ChoirStaff = "ChoirStaff_choir" <<

```



```

\new Staff = "Staff_soprano" \with {
  instrumentName = "Soprano"
}
\new Voice = "soprano" \sopranoMusic
\new Lyrics \lyricsto "soprano" { \sopranoLyrics }

\new GrandStaff = "GrandStaff_altos" \with {
  \accepts Lyrics
} <<
\new Staff = "Staff_altoI" \with {
  instrumentName = "Alto I"
}
\new Voice = "altoI"
\altoIMusic
\new Lyrics \lyricsto "altoI" { \altoILyrics }
\new Staff = "Staff_altoII" \with {
  instrumentName = "Alto II"
}
\new Voice = "altoII"
\altoIIMusic
\new Lyrics \lyricsto "altoII" { \altoIILyrics }
>>

\new Staff = "Staff_tenor" \with {
  instrumentName = "Tenor"
}
\new Voice = "tenor" \tenorMusic
\new Lyrics \lyricsto "tenor" { \tenorLyrics }
>>

\new StaffGroup = "StaffGroup_strings" <<
\new GrandStaff = "GrandStaff_violins" <<
\new Staff = "Staff_violinI" \with {
  instrumentName = "Violin I"
}
\violinIMusic
\new Staff = "Staff_violinII" \with {
  instrumentName = "Violin II"
}
\violinIIMusic
>>

\new Staff = "Staff_viola" \with {
  instrumentName = "Viola"
}
\violaMusic

\new Staff = "Staff_cello" \with {
  instrumentName = "Cello"
}
\celloMusic

```

```
\new Staff = "Staff_bass" \with {  
  instrumentName = "Double Bass"  
}  
  \bassMusic  
>>  
>>  
}  
}
```

Flute

Clarinet in B $\flat$

Horn in F

Trumpet in C

Percussion

Piano

Soprano

Alto I

Alto II

Tenor

Violin I

Violin II

Viola

Cello

Double Bass

Lyr - ics

Lyr - ics

Ah - ah

Lyr - ics

8

8

Detailed description: This is a musical score for a vocal and instrumental ensemble. The score is written for 15 parts: Flute, Clarinet in B $\flat$ , Horn in F, Trumpet in C, Percussion, Piano, Soprano, Alto I, Alto II, Tenor, Violin I, Violin II, Viola, Cello, and Double Bass. The key signature is one sharp (F#), and the time signature is common time (C). The Soprano, Alto I, Alto II, and Tenor parts have lyrics: "Lyr - ics", "Lyr - ics", "Ah - ah", and "Lyr - ics" respectively. The Percussion part has a simple rhythmic pattern. The Piano part has a simple harmonic accompaniment. The string parts (Violin I, Violin II, Viola, Cello, Double Bass) have a simple harmonic accompaniment. The woodwind and brass parts (Flute, Clarinet in B $\flat$ , Horn in F, Trumpet in C) have a simple harmonic accompaniment. The score is written in a standard musical notation with a grand staff for the strings and a grand staff for the woodwinds and brass. The vocal parts are written in a single staff. The lyrics are written below the vocal staves. The page number 268 is in the top right corner.

## Plantilla de piano amb melodia i lletra

Vet aquí el típic format d'una cançó: un pentagrama amb la melodia i la lletra, i el acompanyament de piano per sota.

```
melody = \relative c'' {
  \clef treble
  \key c \major
  \time 4/4

  a b c d
}

text = \lyricmode {
  Aaa Bee Cee Dee
}

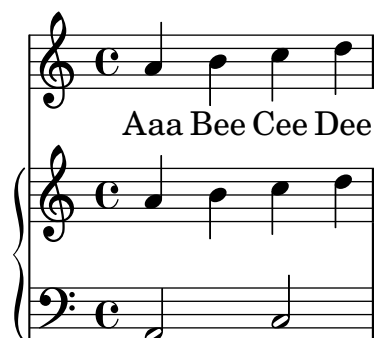
upper = \relative c'' {
  \clef treble
  \key c \major
  \time 4/4

  a4 b c d
}

lower = \relative c {
  \clef bass
  \key c \major
  \time 4/4

  a2 c
}

\score {
  <<
    \new Voice = "mel" { \autoBeamOff \melody }
    \new Lyrics \lyricsto mel \text
    \new PianoStaff <<
      \new Staff = "upper" \upper
      \new Staff = "lower" \lower
    >>
  >>
  \layout {
    \context { \Staff \RemoveEmptyStaves }
  }
  \midi { }
}
```



## Posar lletra dins del pentagrama

Es poden moure les línies de lletra verticalment per imprimir-les dins del pentagrama. Les lletres es mouen amb `\override LyricText.extra-offset = #'(0 . dy)` i hi ha instruccions per moure les línies d'extensió i els guions. El desplaçament necessari s'estableix mitjançant un procés d'assaig i error.

```
<<
\new Staff <<
  \new Voice = "voc" \relative c' { \stemDown a bes c8 b c4 }
>>
\new Lyrics \with {
  \override LyricText.extra-offset = #'(0 . 8.6)
  \override LyricExtender.extra-offset = #'(0 . 8.6)
  \override LyricHyphen.extra-offset = #'(0 . 8.6)
} \lyricsto "voc" { La la -- la _ _ la }
>>
```



## Plantilla de cor SATB, a quatre pentagrames

Plantilla de cor SATB (en quatre pentagrames)

```
global = {
  \key c \major
  \time 4/4
  \dynamicUp
}
sopranonotes = \relative c'' {
  c2 \p \< d c d \f
}
sopranowords = \lyricmode { do do do do }
altonotes = \relative c'' {
  c2\p d c d
}
altowords = \lyricmode { re re re re }
tenornotes = {
  \clef "G_8"
  c2\mp d c d
}
```

```

}
tenorwords = \lyricmode { mi mi mi mi }
bassnotes = {
  \clef bass
  c2\mf d c d
}
basswords = \lyricmode { mi mi mi mi }

\score {
  \new ChoirStaff <<
    \new Staff <<
      \new Voice = "soprano" <<
        \global
        \sopranonotes
      >>
      \new Lyrics \lyricsto "soprano" \sopranowords
    >>
    \new Staff <<
      \new Voice = "alto" <<
        \global
        \altonotes
      >>
      \new Lyrics \lyricsto "alto" \altowords
    >>
    \new Staff <<
      \new Voice = "tenor" <<
        \global
        \tenornotes
      >>
      \new Lyrics \lyricsto "tenor" \tenorwords
    >>
    \new Staff <<
      \new Voice = "bass" <<
        \global
        \bassnotes
      >>
      \new Lyrics \lyricsto "bass" \basswords
    >>
  >>
}

```



## Plantilla de pentagrama únic amb música, lletra i acords

Aquesta plantilla facilita la preparació d'una cançó amb melodia, lletra i acords.

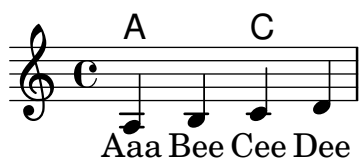
```
melody = \relative c' {
  \clef treble
  \key c \major
  \time 4/4

  a4 b c d
}

text = \lyricmode {
  Aaa Bee Cee Dee
}

harmonies = \chordmode {
  a2 c
}

\score {
  <<
    \new ChordNames {
      \set chordChanges = ##t
      \harmonies
    }
    \new Voice = "one" { \autoBeamOff \melody }
    \new Lyrics \lyricsto "one" \text
  >>
  \layout { }
  \midi { }
}
```



## Single-staff template with notes, lyrics, chords, and frets

Here is a simple lead sheet template with melody, lyrics, chords, and fret diagrams.

```

verseI = \lyricmode {
  \set stanza = #"1."
  This is the first verse
}

verseII = \lyricmode {
  \set stanza = #"2."
  This is the second verse.
}

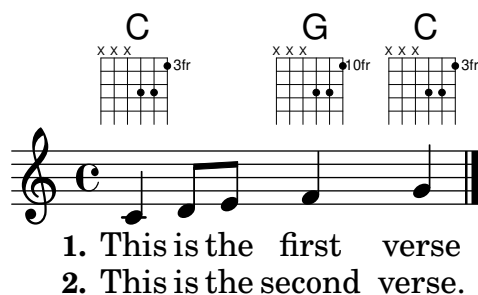
theChords = \chordmode {
  % insert chords for chordnames and fretboards here
  c2 g4 c
}

staffMelody = \relative c' {
  \key c \major
  \clef treble
  % Type notes for melody here
  c4 d8 e f4 g
  \bar "|"
}

\score {
  <<
    \context ChordNames { \theChords }
    \context FretBoards { \theChords }
    \new Staff {
      \context Voice = "voiceMelody" { \staffMelody }
    }
    \new Lyrics = "lyricsI" {
      \lyricsto "voiceMelody" \verseI
    }
    \new Lyrics = "lyricsII" {
      \lyricsto "voiceMelody" \verseII
    }
  >>
  \layout { }
  \midi { }
}

```





1. This is the first verse  
2. This is the second verse.

## Plantilla de pentagrama únic amb notes i lletra

Aquesta petita plantilla mostra una melodia senzilla amb lletra. Talleu-la i pegueu-la, escriviu les notes i després la lletra. Aquest exemple desactiva el barrat automàtic, que és el més freqüent a les parts vocals antigues. Per usar el barrat automàtic modifiqueu o marqueu com un comentari la línia corresponent.

```
melody = \relative c' {
  \clef treble
  \key c \major
  \time 4/4

  a4 b c d
}

text = \lyricmode {
  Aaa Bee Cee Dee
}

\score{
  <<
    \new Voice = "one" {
      \autoBeamOff
      \melody
    }
    \new Lyrics \lyricsto "one" \text
  >>
  \layout { }
  \midi { }
}
```



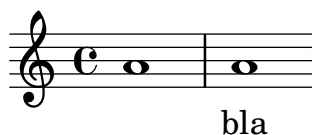
Aaa Bee Cee Dee

## Silencis de separació en mode de lletra

La sintaxi `s` per als silencis de desplaçament sols està disponible als modes de nota i d'acord. En altres situacions, per exemple en escriure la lletra de les cançons, es recomana usar l'ordre `\skip`.

```
<<
  \relative c' { a1 | a }
  \new Lyrics \lyricmode { \skip1 bla1 }
```

&gt;&gt;



## Silencis de separació en mode de lletra (2)

Tot i que no es poden usar els silencis de separació s dins de `\lyricmode` (s'agafen com una "s", literal, no com un espai), sí hi ha disponibles les comtes dobles ("" ) i la barra baixa (\_). Així com per exemple:

&lt;&lt;

```
\relative c'' { a4 b c d }
\new Lyrics \lyricmode { a4 "" _ gap }
```

&gt;&gt;



## Using `\arpeggioBracket` to make divisi more visible

The `\arpeggioBracket` command can be used to indicate the division of voices where there are no stems to provide the information. This is often seen in choral music.

```
\include "english.ly"
```

```
\score {
  \relative c'' {
    \key a \major
    \time 2/2
    <<
      \new Voice = "upper"
      <<
        { \voiceOne \arpeggioBracket
          a2( b2
            <b d>1\arpeggio)
            <cs e>\arpeggio ~
            <cs e>4
          }
        \addlyrics { \lyricmode { A -- men. } }
      >>
      \new Voice = "lower"
      { \voiceTwo
        a1 ~
        a
        a ~
        a4 \bar "|"
      }
    >>
  }
}
```



## Using tags to produce mensural and modern music from the same source

Using tags it is possible to produce both mensural and modern notation from the same music. In this snippet, a function `\menrest` is introduced, allowing mensural rests to be pitched as in the original, but with modern rests in the standard staff position.

Tags can also be used where other differences are needed: for example using “whole measure rests” (`R1`, `R\breve`, etc.) in modern music, but normal rests (`r1`, `r\breve`, etc.) in the mensural version. Converting mensural music to its modern equivalent is usually referred to as *transcription*.

The call `c4.\Be c8 c\Am` is the same as `c4.[ c8 c]`. However, it suppresses warnings if it starts on a note that can’t hold a beam but needs it anyway due to the use of `Completion_heads_engraver`.

[Note that the custos sticks out into the right margin and might be cut off if the LilyPond output gets cropped tightly. The use of `\with-true-dimensions` below avoids this.]

```
\layout {
  line-width = 150\mm
}

menrest = #(define-music-function (note) (ly:music?)
  #{
    \tag #'mens $(make-music 'RestEvent note)
    \tag #'mod $(make-music 'RestEvent note 'pitch '())
  })

Be = \tag #'mod
  #(begin
    (ly:expect-warning (G_ "stem does not fit in beam"))
    (ly:expect-warning (G_ "beam was started here"))
    (make-span-event 'BeamEvent START))

Am = \tag #'mod ]

MenStyle = {
  \override Score.BarNumber.transparent = ##t
  \override Stem.neutral-direction = #up
  \omit Slur
  \omit Beam
}

finalis = \section

Music = \relative c'' {
  \key f \major
  g1 d'2 \menrest bes4 bes a2 \menrest r4 g4 fis4. fis8 fis4 fis \break
  g e f4.([ g8] a4[ g8 f] g2.\Be fis8 e\Am fis2) g\breve \finalis
}
```

```

MenLyr = \lyricmode {
  So farre, deere life, deare life,
  from thy bright beames ab- en- ted,
}
ModLyr = \lyricmode {
  So far, dear life, dear life,
  from your bright beams ab -- sen -- ted, __
}

\markup \with-true-dimensions % work around a cropping issue
\score {
  \keepWithTag #'mens {
    <<
      \new PetrucciStaff {
        \new PetrucciVoice = "Cantus" {
          \clef "petrucci-c1" \time 4/4 \MenStyle \Music
        }
      }
      \new Lyrics \lyricsto "Cantus" \MenLyr
    >>
  }
  \layout {
    \context {
      \PetrucciVoice
      % No longer necessary starting with version 2.25.23.
      \override Flag.style = #'mensural
    }
  }
}

\markup\vspace #1

\score {
  \keepWithTag #'mod {
    \new ChoirStaff <<
      \new Staff {
        \new Voice = "Sop" \with {
          \remove "Note_heads_engraver"
          \consists "Completion_heads_engraver"
          \remove "Rest_engraver"
          \consists "Completion_rest_engraver"
        } \shiftDurations 1 0 { \time 2/4 \autoBeamOff \Music }
      }
      \new Lyrics \lyricsto "Sop" \ModLyr
    >>
  }
}

```

So farre, deere life, deare life, from thy bright  
beames ab- fen- ted,

So far, dear life, dear life, from your bright  
beams ab - sen - - - ted,\_\_\_\_\_

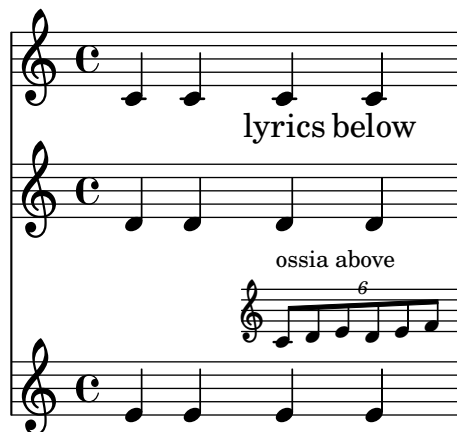
### Alineació vertical de la lletra i els compassos d'ossia

Aquest fragment de codi mostra l'ús de les propietats de context `alignBelowContext` i `alignAboveContext` per a controlar la posició de la lletra i els compassos d'ossia.

```
\relative c' <<
  \new Staff = "1" { c4 c c c }
  \new Staff = "2" { d4 d d d }
  \new Staff = "3" { e4 e e e }

  { \skip 2
    <<
      \lyrics {
        \set alignBelowContext = "1"
        lyrics4 below
      }
      \new Staff \with {
        alignAboveContext = "3"
        fontSize = -2
        \override StaffSymbol.staff-space = #(magstep -2)
        \remove "Time_signature_engraver"
        \override VerticalAxisGroup.staff-staff-spacing =
          #'((minimum-distance . 0)
            (basic-distance . 0)
            (padding . 1))
      } {
        \tuplet 6/4 {
          \override TextScript.padding = 2
          c8["^"ossia above" d e d e f]
        }
      }
    }
  >>
```

```
}
>>
```



## Vertically aligning stanza numbers of different staves

It can happen that stanza numbers don't align vertically if the verses are attached to different staves. To fix that, override the self-alignment-X property of the LyricText grob.

```
\markup { default behavior }
```

```
<<
```

```
\new Staff { b b b b }
\lyrics {
  \set stanza = "3."
  a a a a
}
```

```
\new Staff { b b b b }
\lyrics {
  \set stanza = "1."
  aaaaaaaaaa a a a
}
```

```
\lyrics {
  \set stanza = "2."
  a a a a
}
```

```
>>
```

```
\markup \vspace #1
```

```
\markup {
  using \typewriter "self-alignment-X = #LEFT" }
```

```
<<
```

```
\new Staff { b b b b }
\new Lyrics \lyricmode {
  \set stanza = "3."
  a a a a
}
```

```
\new Staff { b b b b }
```

```

\new Lyrics \lyricmode {
  \set stanza = "1."
  \once \override LyricText.self-alignment-X = #LEFT
  aaaaaaaaaa a a a
}
\new Lyrics \lyricmode {
  \set stanza = "2."
  a a a a
}
>>

```

default behavior



using self-alignment-X = #LEFT



## Lletra comuna centrada verticalment

A una peça vocal en la qual hi ha diverses línies de lletra (dues, quatre o més) i hi ha lletres comunes a totes les veus en algun punt, es pot fer que les lletres comunes se centrin verticalment com es mostra a l'exemple següent:

```

dropLyrics = {
  \override LyricText.extra-offset = #'(0 . -4.5)
  \override LyricHyphen.extra-offset = #'(0 . -4.5)
  \override LyricExtender.extra-offset = #'(0 . -4.5)
  \override StanzaNumber.extra-offset = #'(0 . -4.5)
}

```

```

raiseLyrics = {
  \revert LyricText.extra-offset
  \revert LyricHyphen.extra-offset
  \revert LyricExtender.extra-offset
  \revert StanzaNumber.extra-offset
}

```

```

}

skipFour = \repeat unfold 4 { \skip 8 }

lyricsA = \lyricmode {
  The first verse has
  \dropLyrics
  \set stanza = #"  All:"
  the com -- mon __ words
  \raiseLyrics
  used in all four.
}

lyricsB = \lyricmode { In stan -- za two,   \skipFour al -- so ap -- pear. }

lyricsC = \lyricmode { By the third verse, \skipFour are get -- ting dull. }

lyricsD = \lyricmode { Last stan -- za, and \skipFour get used once more. }

melody = \relative c' {
  c4 d e f |
  g f e8( e f) d |
  c4 e d c |
}

\score {
  <<
    \new Voice = m \melody
    \new Lyrics \lyricsto m \lyricsA
    \new Lyrics \lyricsto m \lyricsB
    \new Lyrics \lyricsto m \lyricsC
    \new Lyrics \lyricsto m \lyricsD
  >>
}

```

The first verse has  
In stan - za two,  
By the third verse, **All:** the common words  
Last stan - za, and  
used in all four.  
al - so ap - pear.  
are get - ting dull.  
get used once more.

## Plantilla de conjunt vocal

Vet aquí una partitura vocal estàndard per a quatre veus SATB. Amb grups més grans, sol ser útil incloure una secció que aparegui a totes les parts. Per exemple, el compàs i l'armadura gairebé sempre son els mateixos per a totes. Com a la plantilla “Himne”, les quatre veus es reagrupen en sols dos pentagrames.

```

\paper {
  top-system-spacing.basic-distance = 10
  score-system-spacing.basic-distance = 20
}

```



```

    system-system-spacing.basic-distance = 20
    last-bottom-spacing.basic-distance = 10
}

global = {
  \key c \major
  \time 4/4
}

sopMusic = \relative {
  c''4 c c8[( b)] c4
}
sopWords = \lyricmode {
  hi hi hi hi
}

altoMusic = \relative {
  e'4 f d e
}
altoWords = \lyricmode {
  ha ha ha ha
}

tenorMusic = \relative {
  g4 a f g
}
tenorWords = \lyricmode {
  hu hu hu hu
}

bassMusic = \relative {
  c4 c g c
}
bassWords = \lyricmode {
  ho ho ho ho
}

\score {
  \new ChoirStaff <<
    \new Lyrics = "sopranos" \with {
      % this is needed for lyrics above a staff
      \override VerticalAxisGroup.staff-affinity = #DOWN
    }
    \new Staff = "women" <<
      \new Voice = "sopranos" {
        \voiceOne
        << \global \sopMusic >>
      }
      \new Voice = "altos" {
        \voiceTwo
        << \global \altoMusic >>
      }
    }
  }

```

```

>>
\new Lyrics = "altos"
\new Lyrics = "tenors" \with {
  % this is needed for lyrics above a staff
  \override VerticalAxisGroup.staff-affinity = #DOWN
}
\new Staff = "men" <<
  \clef bass
  \new Voice = "tenors" {
    \voiceOne
    << \global \tenorMusic >>
  }
  \new Voice = "basses" {
    \voiceTwo << \global \bassMusic >>
  }
>>
\new Lyrics = "basses"
\context Lyrics = "sopranos" \lyricsto "sopranos" \sopWords
\context Lyrics = "altos" \lyricsto "altos" \altoWords
\context Lyrics = "tenors" \lyricsto "tenors" \tenorWords
\context Lyrics = "basses" \lyricsto "basses" \bassWords
>>
}

```



## Plantilla de conjunt vocal amb reducció de piano automàtica

Aquesta plantilla afegeix una reducció de piano automàtica a la partitura vocal SATB estàndard que es va mostrar a la “Plantilla de conjunt vocal”. Això presenta un dels punts forts del LilyPond: podem usar una definició de música més d’un cop. Si es fa qualsevol canvi a les notes de la part vocal (diguem `tenorMusic`), aleshores els canvis s’aplicaran també a la reducció de piano.

```

\paper {
  top-system-spacing.basic-distance = 10
  score-system-spacing.basic-distance = 20
  system-system-spacing.basic-distance = 20
  last-bottom-spacing.basic-distance = 10
}

```

```

global = {
  \key c \major
  \time 4/4

```

```

}

sopMusic = \relative {
  c''4 c c8[( b)] c4
}
sopWords = \lyricmode {
  hi hi hi hi
}

altoMusic = \relative {
  e'4 f d e
}
altoWords = \lyricmode {
  ha ha ha ha
}

tenorMusic = \relative {
  g4 a f g
}
tenorWords = \lyricmode {
  hu hu hu hu
}

bassMusic = \relative {
  c4 c g c
}
bassWords = \lyricmode {
  ho ho ho ho
}

\score {
  <<
    \new ChoirStaff <<
      \new Lyrics = "sopranos" \with {
        % This is needed for lyrics above a staff
        \override VerticalAxisGroup.staff-affinity = #DOWN
      }
      \new Staff = "women" <<
        \new Voice = "sopranos" { \voiceOne << \global \sopMusic >> }
        \new Voice = "altos" { \voiceTwo << \global \altoMusic >> }
      >>
      \new Lyrics = "altos"

      \new Lyrics = "tenors" \with {
        % This is needed for lyrics above a staff
        \override VerticalAxisGroup.staff-affinity = #DOWN
      }
      \new Staff = "men" <<
        \clef bass
        \new Voice = "tenors" { \voiceOne << \global \tenorMusic >> }
        \new Voice = "basses" { \voiceTwo << \global \bassMusic >> }
      >>
    >>
  >>
}

```

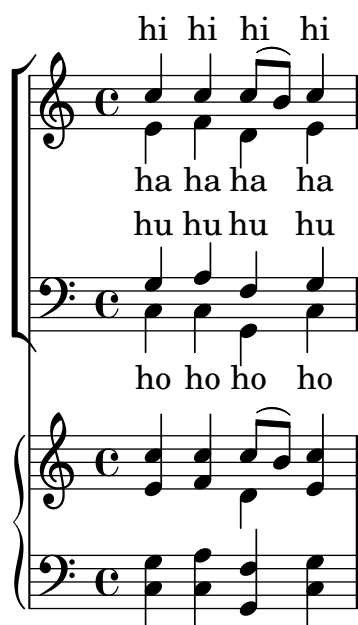
```

\new Lyrics = "basses"

\context Lyrics = "sopranos" \lyricsto "sopranos" \sopWords
\context Lyrics = "altos" \lyricsto "altos" \altoWords
\context Lyrics = "tenors" \lyricsto "tenors" \tenorWords
\context Lyrics = "basses" \lyricsto "basses" \bassWords
>>

\new PianoStaff <<
  \new Staff <<
    \set Staff.printPartCombineTexts = ##f
    \partCombine
    << \global \sopMusic >>
    << \global \altoMusic >>
  >>
  \new Staff <<
    \clef bass
    \set Staff.printPartCombineTexts = ##f
    \partCombine
    << \global \tenorMusic >>
    << \global \bassMusic >>
  >>
>>
>>
>>
}

```



## Plantilla per a conjunt amb lletres alineades a sobre i a sota dels pentagrames

Aquesta plantilla és, bàsicament, la mateixa que la senzilla plantilla “Conjunt vocal”, excepte que aquí totes les línies de lletra es col·loquen utilitzant `alignAboveContext` i `alignBelowContext`.

```

global = {
  \key c \major

```

```

\time 4/4
}

sopMusic = \relative c'' {
  c4 c c8[( b)] c4
}
sopWords = \lyricmode {
  hi hi hi hi
}

altoMusic = \relative c' {
  e4 f d e
}
altoWords = \lyricmode {
  ha ha ha ha
}

tenorMusic = \relative c' {
  g4 a f g
}
tenorWords = \lyricmode {
  hu hu hu hu
}

bassMusic = \relative c {
  c4 c g c
}
bassWords = \lyricmode {
  ho ho ho ho
}

\score {
  \new ChoirStaff <<
    \new Staff = "women" <<
      \new Voice = "sopranos" { \voiceOne << \global \sopMusic >> }
      \new Voice = "altos" { \voiceTwo << \global \altoMusic >> }
    >>
    \new Lyrics \with { alignAboveContext = "women" }
      \lyricsto "sopranos" \sopWords
    \new Lyrics \with { alignBelowContext = "women" }
      \lyricsto "altos" \altoWords
    % we could remove the line about this with the line below, since
    % we want the alto lyrics to be below the alto Voice anyway.
    % \new Lyrics \lyricsto "altos" \altoWords

    \new Staff = "men" <<
      \clef bass
      \new Voice = "tenors" { \voiceOne << \global \tenorMusic >> }
      \new Voice = "basses" { \voiceTwo << \global \bassMusic >> }
    >>
    \new Lyrics \with { alignAboveContext = "men" }
      \lyricsto "tenors" \tenorWords

```

```

\new Lyrics \with { alignBelowContext = "men" }
  \lyricsto "basses" \bassWords
% again, we could replace the line above this with the line below.
% \new Lyrics \lyricsto "basses" \bassWords
>>
}

```



## Estrofa per a solista i tornada a dues veus

Aquesta plantilla crea una partitura que comença amb una estrofa per a solista i continua amb una tornada a dues veus. També mostra l'ús de silencis de separació dins de la variable `\global` per definit canvis de compàs (i altres exemple que són comuns a totes les parts) al llarg de tota la partitura.

```

global = {
  \key g \major

  % verse
  \time 3/4
  s2.*2
  \break

  % refrain
  \time 2/4
  s2*2
  \bar "|"
}

SoloNotes = \relative g' {
  \clef "treble"

  % verse
  g4 g g |
  b4 b b |

  % refrain
  R2*2 |
}

SoloLyrics = \lyricmode {
  One two three |
  four five six |
}

```

```

}

SopranoNotes = \relative c'' {
  \clef "treble"

  % verse
  R2.*2 |

  % refrain
  c4 c |
  g4 g |
}

SopranoLyrics = \lyricmode {
  la la |
  la la |
}

BassNotes = \relative c {
  \clef "bass"

  % verse
  R2.*2 |

  % refrain
  c4 e |
  d4 d |
}

BassLyrics = \lyricmode {
  dum dum |
  dum dum |
}

\score {
  <<
    \new Voice = "SoloVoice" << \global \SoloNotes >>
    \new Lyrics \lyricsto "SoloVoice" \SoloLyrics

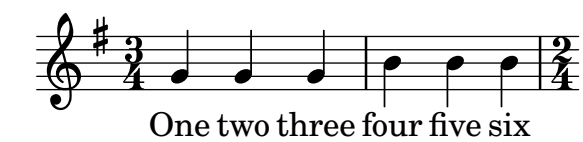
    \new ChoirStaff <<
      \new Voice = "SopranoVoice" << \global \SopranoNotes >>
      \new Lyrics \lyricsto "SopranoVoice" \SopranoLyrics

      \new Voice = "BassVoice" << \global \BassNotes >>
      \new Lyrics \lyricsto "BassVoice" \BassLyrics
    >>
  >>

  \layout {
    ragged-right = ##t
    \context { \Staff
      % these lines prevent empty staves from being printed

```

```
\RemoveEmptyStaves
\override VerticalAxisGroup.remove-first = ##t
}
```





## 10 Chord notation

See also Secció “Chord notation” in *Referencia de la Notación*.

### Afegir un baix xifrat a sobre o a sota de les notes

En escriure un baix xifrat, podem ubicar les xifres a sobre o a sota de les notes del baix, mitjançant la definició de la propietat `BassFigureAlignmentPositioning #'direction` (exclusivament dins d'un context `Staff`). es pot escollir entre `#UP` (o `#1`, a sobre), `#CENTER` (o `#0`, centraat) i `#DOWN` (o `#-1`, a sota).

Aquesta propietat es pot canviar tantes vegades com volem. Utilitzeu `\once \override` si no voleu que la sobreescritura s'apliqui a tota la partitura.

```
bass = {
  \clef bass
  g4 b, c d |
  e d8 c d2
}

continuo = \figuremode {
  <_>4 <6>4 <5/>4
  \bassFigureStaffAlignmentUp
  <_+>4 <6> |
  \set Staff.useBassFigureExtenders = ##t
  \bassFigureStaffAlignmentDown
  <4>4. <4>8 <_+>4
}

\score {
  <<
    \new Staff = bassStaff \bass
    \context Staff = bassStaff \continuo
  >>
}
```



### Afegir barres de compàs al context de noms d'acord (ChordNames)

Per afegir indicacions de línia divisòria dins del context dels noms d'acord `ChordNames`, incloeu el gravador `Bar_engraver`.

```
\new ChordNames \with {
  \override BarLine.bar-extent = #'(-1 . 3)
  \consists "Bar_engraver"
}

\chordmode {
  f1:maj7 f:7 bes:7
}
```

$F^{\Delta}$  |  $F^7$  |  $B\flat^7$  |

## Adjusting figured bass alteration glyphs

In figured bass, specially designed glyphs for 6\\, 7\\, and 9\\ are used by default. Similarly, specially designed glyphs for symbols 2\\+, 4\\+, and 5\\+ are used by default if plus signs appear after the number.

To change that, pass an alist to `figuredBassPlusStrokedAlist` and set the glyph in question to #f (or omit it).

```
#(set-global-staff-size 26)
```

```
\figures {
  \set figuredBassPlusDirection = #RIGHT
  <6\\> <7\\> <9\\> r
  <2\\+> <4\\+> <5\\+> r

  \set figuredBassPlusStrokedAlist =
    #'((2 . "figbass.twoplus")
      ;; (4 . "figbass.fourplus")
      ;; (5 . "figbass.fiveplus")
      (6 . "figbass.sixstroked")
      ;; (7 . "figbass.sevenstroked")
      ;; (9 . "figbass.ninestroked")
    )
  <6\\> <7\\> <9\\> r
  <2\\+> <4\\+> <5\\+> r
}
```

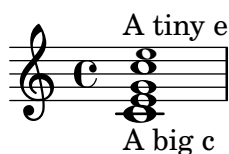
6 7 9                      2 4 5<sup>+</sup>                      6 7 9                      2 4<sup>+</sup> 5<sup>+</sup>

## Changing a single note's size in a chord

Individual note heads in a chord can be modified with the `\tweak` command inside a chord, by altering the `font-size` property.

Inside the chord (within the brackets < >), before the note to be altered, place the `\tweak` command, followed by `font-size` and define the proper size like `#-2` (a tiny note head).

```
\relative c' {
  <\tweak font-size #+2 c e g c
  \tweak font-size #-2 e>1
  ~\markup { A tiny e }_~\markup { A big c }
}
```



## Modificació del separador d'acords

The separator between different parts of a chord name can be set to any markup.

```
\chords {
  c:7sus4
```

```
\set chordNameSeparator = \markup { \typewriter | }
c:7sus4
}
```

$C^7 \text{ sus4}$   $C^7 | \text{ sus4}$

## Canviar les posicions de les alteracions de baix xifrat

Les alteracions i els signes «més» poden aparèixer abans o després dels nombres, segon el valor de ls propietats `figuredBassAlterationDirection` i `figuredBassPlusDirection`.

```
#{set-global-staff-size 26}
```

```
\figures {
  <5\+> <5+ 4\+> <6 4- 2\+> r
  \set figuredBassAlterationDirection = #RIGHT
  <5\+> <5+ 4\+> <6 4- 2\+> r
  \set figuredBassPlusDirection = #RIGHT
  <5\+> <5+ 4\+> <6 4- 2\+> r
  \set figuredBassAlterationDirection = #LEFT
  <5\+> <5+ 4\+> <6 4- 2\+> r
}
```

$+5$   $\sharp 5$   $6$        $+5$   $5\sharp$   $6$        $5^+$   $5\sharp$   $6$        $5^+$   $\sharp 5$   $6$   
 $+4$   $\flat 4$   $+2$        $+4$   $\flat 4$   $+2$        $4$   $\flat 4$   $2$        $4$   $\flat 4$   $2$

## Excepcions per als noms d'acord

Es pot usar la propietat `chordNameExceptions` per a emmagatzemar una llista de notacions espacials per a acords específics.

```
% Step 1: Define music with chords and markup for maj9 and 6(add9).
```

```
chExceptionMusic = {
  <c e g b d'>-\markup { \super "maj9" }
  <c e g a d'>-\markup { \super "6(add9)" }
}
```

```
% Step 2: Create extended exception list.
```

```
chExceptions =
#{append (sequential-music-to-chord-exceptions chExceptionMusic #t)
  ignatzekExceptions}
```

```
theMusic = \chordmode {
  g1:maj9 g1:6.9
  % Step 3: Register extended exception list.
  \set chordNameExceptions = #chExceptions
  g1:maj9 g1:6.9
}
```

```
<<
  \new ChordNames \theMusic
  \new Voice \theMusic
>>
```

```
\layout {
  line-width = 10\cm
  ragged-right = ##f
}
```



## Nom d'acord maj7

La presentació de l'acord de sèptima major es pot ajustar mitjançant `majorSevenSymbol`.

```
\chords {
  c:7+
  \set majorSevenSymbol = \markup { j7 }
  c:7+
}
```

$C^{\Delta} C^{j7}$

## Chord names alternative

Chord names are generated from a list of pitches. The functions which construct these names can be customised.

Here are shown chords following Ignatzek (pp. 17-18, 1995), used by default since LilyPond 1.7.20, compared with an alternative Jazz chord notation and Harald Banter's (1987) notation. A smaller font is used in the latter case, as these tend to be overly verbose.

This mirrors the mechanism originally used in early LilyPond versions (pre-1.7); not having been properly maintained, however, some features have been lost (mainly chord exception lists) and bugs have been introduced.

```
%%% Legacy chord naming functions (formerly in scm/chord-generic-names.scm)
%%% Copyright (C) 2003--2023 Jan Nieuwenhuizen <janneke@gnu.org>
```

```
#(set-global-staff-size 19.7)

#(define-public (banter-chordnames pitches bass inversion context)
  (old_chord->markup 'banter pitches bass inversion context))

#(define-public (jazz-chordnames pitches bass inversion context)
  (old_chord->markup 'jazz pitches bass inversion context))

#(define (define-translator-property symbol type? description)
  (if (not (and (symbol? symbol)
                (procedure? type?)
                (string? description)))
      (ly:error "error in call of define-translator-property"))
  (if (not (equal? (object-property symbol 'translation-doc) #f))
      (ly:error (G_ "symbol ~S redefined") symbol))

  (set-object-property! symbol 'translation-type? type?)
  (set-object-property! symbol 'translation-doc description))
```

```

symbol)

#(for-each
  (lambda (x)
    (apply define-translator-property x))
  `((chordNameExceptionsFull ,list? "An alist of full chord
exceptions. Contains @code{(@var{chord} . @var{markup})} entries.")
    (chordNameExceptionsPartial ,list? "An alist of partial chord
exceptions. Contains @code{(@var{chord} . (@var{prefix-markup}
@var{suffix-markup}))} entries.")))

#(define-public (old_chord->markup
                 style pitches bass inversion context)
  "Entry point for @code{Chord_name_engraver}.
@var{pitches}, @var{bass}, and @var{inversion} are lily pitches."
  (define (default-note-namer pitch)
    (note-name->markup pitch #f))

  (define (markup-or-empty-markup markup)
    "Return MARKUP if markup, else empty-markup"
    (if (markup? markup) markup empty-markup))

  (define (accidental->markup alteration)
    "Return accidental markup for ALTERATION."
    (if (= alteration 0)
        (make-line-markup (list empty-markup))
        (conditional-kern-before
         (alteration->text-accidental-markup alteration)
         (= alteration FLAT) 0.094725))))

(define (list-minus a b)
  "Return list of elements in A that are not in B."
  (lset-difference eq? a b))

(define (markup-join markups sep)
  "Return line-markup of MARKUPS, joining them with markup SEP"
  (if (pair? markups)
      (make-line-markup (list-insert-separator markups sep))
      empty-markup))

(define (conditional-kern-before markup bool amount)
  "Add AMOUNT of space before MARKUP if BOOL is true."
  (if bool
      (make-line-markup
       (list (make-hspace-markup amount)
             markup))
      markup))

(define (step-nr pitch)
  (let* ((pitch-nr (+ (* 7 (ly:pitch-octave pitch))
                     (ly:pitch-notename pitch)))
        (root-nr (+ (* 7 (ly:pitch-octave (car pitches))

```

```

        (ly:pitch-notename (car pitches))))))
      (+ 1 (- pitch-nr root-nr))))))

(define (next-third pitch)
  (+ pitch
    (ly:make-pitch 0 2 (if (or (= (step-nr pitch) 3)
                              (= (step-nr pitch) 5))
                          FLAT 0))))))

(define (step-alteration pitch)
  (let* ((normalized-pitch (- pitch (car pitches)))
        (alteration (ly:pitch-alteration normalized-pitch)))
    (if (= (step-nr pitch) 7) (+ alteration SEMI-TONE) alteration)))

(define (pitch-unalter pitch)
  (let ((alteration (step-alteration pitch)))
    (if (= alteration 0)
        pitch
        (ly:make-pitch (ly:pitch-octave pitch) (ly:pitch-notename pitch)
                        (- (ly:pitch-alteration pitch) alteration)))))

(define (step-even-or-altered? pitch)
  (let ((nr (step-nr pitch)))
    (if (!= (modulo nr 2) 0)
        (!= (step-alteration pitch) 0)
        #t)))

(define (step->markup-plusminus pitch)
  (let ((alt (step-alteration pitch)))
    (make-line-markup
     (list
      (number->string (step-nr pitch))
      (cond
       ((= alt DOUBLE-FLAT) "--")
       ((= alt FLAT) "-")
       ((= alt NATURAL) "")
       ((= alt SHARP) "+")
       ((= alt DOUBLE-SHARP) "++"))))))))

(define (step->markup-accidental pitch)
  (make-line-markup
   (list (accidental->markup (step-alteration pitch))
         (make-simple-markup (number->string (step-nr pitch))))))

(define (step->markup-ignatzek pitch)
  (make-line-markup
   (if (and (= (step-nr pitch) 7)
            (= (step-alteration pitch) 1))
       (list (ly:context-property context 'majorSevenSymbol))
       (list (accidental->markup (step-alteration pitch))
             (make-simple-markup (number->string (step-nr pitch)))))))

```

```

;; tja, kennok
(define (make-sub->markup step->markup)
  (lambda (pitch)
    (make-line-markup (list (make-simple-markup "no")
                           (step->markup pitch)))))

(define (step-based-sub->markup step->markup pitch)
  (make-line-markup (list (make-simple-markup "no") (step->markup pitch))))

(define (get-full-list pitch)
  (if (<= (step-nr pitch) (step-nr (last pitches)))
      (cons pitch (get-full-list (next-third pitch)))
      '()))

(define (get-consecutive nr pitches)
  (if (pair? pitches)
      (let* ((pitch-nr (step-nr (car pitches)))
             (next-nr (if (!= (modulo pitch-nr 2) 0) (+ pitch-nr 2) nr)))
        (if (<= pitch-nr nr)
            (cons (car pitches) (get-consecutive next-nr (cdr pitches)))
            '()))
      '()))

;;; FIXME -- exceptions no longer work. -vv

(define (full-match exceptions)
  (if (pair? exceptions)
      (let* ((e (car exceptions))
             (e-pitches (car e)))
        (if (equal? e-pitches pitches)
            e
            (full-match (cdr exceptions)))))
  #f))

(define (partial-match exceptions)
  (if (pair? exceptions)
      (let* ((e (car exceptions))
             (e-pitches (car e)))
        (if (equal? e-pitches (take pitches (length e-pitches)))
            e
            (partial-match (cdr exceptions)))))
  #f))

;; FIXME: exceptions don't work anyway.
(if #f (begin
  (write-me "pitches: " pitches)))
(let* ((full-exceptions
  (ly:context-property context 'chordNameExceptionsFull))
  (full-exception (full-match full-exceptions))
  (full-markup (if full-exception (cadr full-exception) '()))
  (partial-exceptions
  (ly:context-property context 'chordNameExceptionsPartial))

```

```

(partial-exception (partial-match partial-exceptions))
(partial-pitches (if partial-exception (car partial-exception) '()))
(partial-markup-prefix
  (if partial-exception (markup-or-empty-markup
                        (cadr partial-exception)) empty-markup))
(partial-markup-suffix
  (if (and partial-exception (pair? (cddr partial-exception)))
      (markup-or-empty-markup (caddr partial-exception)) empty-markup))
(root (car pitches))
(full (get-full-list root))
;; kludge alert: replace partial matched lower part of all with
;; 'normal' pitches from full
;; (all pitches)
(all (append (take full (length partial-pitches))
             (drop pitches (length partial-pitches))))

(highest (last all))
(missing (list-minus full (map pitch-unalter all)))
(consecutive (get-consecutive 1 all))
(rest (list-minus all consecutive))
(altered (filter step-even-or-altered? all))
(cons-alt (filter step-even-or-altered? consecutive))
(base (list-minus consecutive altered)))

(if #f (begin
  (write-me "full:" full)
  ;; (write-me "partial-pitches:" partial-pitches)
  (write-me "full-markup:" full-markup)
  (write-me "partial-markup-prefix:" partial-markup-prefix)
  (write-me "partial-markup-suffix:" partial-markup-suffix)
  (write-me "all:" all)
  (write-me "altered:" altered)
  (write-me "missing:" missing)
  (write-me "consecutive:" consecutive)
  (write-me "rest:" rest)
  (write-me "base:" base)))

(case style
  ((banter)
   ;; root
   ;; + steps:altered + (highest all -- if not altered)
   ;; + subs:missing

  (let* ((root->markup default-note-namer)
         (step->markup step->markup-plusminus)
         (sub->markup (lambda (x)
                       (step-based-sub->markup step->markup x)))
         (sep (make-simple-markup "/")))

    (if
      (pair? full-markup)

```



```

(make-line-markup (list (root->markup root) full-markup))

(make-line-markup
  (list
    (root->markup root)
    partial-markup-prefix
    (make-super-markup
      (markup-join
        (append
          (map step->markup
            (append altered
              (if (and (> (step-nr highest) 5)
                (not
                  (step-even-or-altered? highest)))
                (list highest) '()))))
          (list partial-markup-suffix)
          (map sub->markup missing))
        sep))))))

((jazz)
  ;; root
  ;; + steps:(highest base) + cons-alt
  ;; + 'add'
  ;; + steps:rest
  (let* ((root->markup default-note-namer)
    (step->markup step->markup-ignatzek)
    (sep (make-simple-markup " "))
    (add-prefix (make-simple-markup " add")))
    (if
      (pair? full-markup)
      (make-line-markup (list (root->markup root) full-markup))

      (make-line-markup
        (list
          (root->markup root)
          partial-markup-prefix
          (make-super-markup
            (make-line-markup
              (list

                ;; kludge alert: omit <= 5
                ;; (markup-join (map step->markup
                ;;               (cons (last base) cons-alt)) sep)

                ;; This fixes:
                ;; c      C5      -> C
                ;; c:2    C5 2    -> C2
                ;; c:3-   Cm5     -> Cm
                ;; c:6.9 C5 6add9 -> C6 add 9 (add?)
                ;; ch = \chords { c c:2 c:3- c:6.9^7 }
              )
            )
          )
        )
      )
    )
  )

```

```

      (markup-join (map step->markup
                        (let ((tb (last base)))
                          (if (> (step-nr tb) 5)
                              (cons tb cons-alt)
                              cons-alt)))) sep)

      (if (pair? rest)
          add-prefix
          empty-markup)
      (markup-join (map step->markup rest) sep)
      partial-markup-suffix))))))

(else empty-markup)))

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%%
%% Here begins the actual snippet:

chs = \transpose c' c' {
  <c e g>1
  <c es g> % m = minor triad
  <c e gis>
  <c es ges> \break
  <c e g bes>
  <c es g bes>
  <c e g b> % triangle = maj
  <c es ges beses>
  <c es ges b> \break
  <c e gis bes>
  <c es g b>
  <c e gis b>
  <c es ges bes> \break
  <c e g a> % 6 = major triad with added sixth
  <c es g a> % m6 = minor triad with added sixth
  <c e g bes d'>
  <c es g bes d'> \break
  <c es g bes d' f' a' >
  <c es g bes d' f' >
  <c es ges bes d' >
  <c e g bes des' > \break
  <c e g bes dis'>
  <c e g bes d' f'>
  <c e g bes d' fis'>
  <c e g bes d' f' a'> \break
  <c e g bes d' fis' as'>
  <c e gis bes dis'>
  <c e g bes dis' fis'>
  <c e g bes d' f' as'> \break
  <c e g bes des' f' as'>
  <c e g bes d' fis'>
  <c e g b d'>

```

```

<c e g bes d' f' as'> \break
<c e g bes des' f' as'>
<c e g bes des' f' a'>
<c e g b d'>
<c e g b d' f' a'> \break
<c e g b d' fis'>
<c e g bes des' f ' a'>
<c f g>
<c f g bes> \break
<c f g bes d'>
<c e g d'> % add9
<c es g f'>
<c e g b fis'> % Lydian
<c e g bes des' ees' fis' aes'> % altered chord
}

```

```

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% alternate Jazz notation

```

```

efullmusicJazzAlt = {
  <c e gis>1-\markup { "+" }
  <c e g b>-\markup {
    \normal-size-super
    % \override #'(font-family . math) "N"
    \override #'(font-family . math) "M"
  }
  %%c:3.5.7 = \markup { \override #'(font-family . math) "M" }
  %%c:3.5.7 = \markup { \normal-size-super "maj7" }

  <c es ges>-\markup { \super "o" } % should be $\circ$ ?
  <c es ges bes>-\markup { \super \combine "o" "/" }
  <c es ges beses>-\markup { \super "o7" }
}

```

```

efullJazzAlt = #(sequential-music-to-chord-exceptions efullmusicJazzAlt #f)

```

```

epartialmusicJazzAlt = {
  <c d>1-\markup { \normal-size-super "2" }
  <c es>-\markup { "m" }
  <c f>-\markup { \normal-size-super "sus4" }
  <c g>-\markup { \normal-size-super "5" }
  %% TODO, partial exceptions
  <c es f>-\markup { "m" }-\markup { \normal-size-super "sus4" }
  <c d es>-\markup { "m" }-\markup { \normal-size-super "sus2" }
}

```

```

epartialJazzAlt = #(sequential-music-to-chord-exceptions epartialmusicJazzAlt #f)

```

```

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

```

```

\score {

```

```

<<
\new ChordNames {
  %% Already set by default:
  %\set chordNameFunction = #ignatzek-chord-names
  \set instrumentName = "Ignatzek"
  \set shortInstrumentName = "Def"
  \chs
}

\new ChordNames {
  \set chordNameFunction = #jazz-chordnames
  \set majorSevenSymbol = \whiteTriangleMarkup
  \set chordNameSeparator = "/"
  \set chordNameExceptionsFull = \efullJazzAlt
  \set chordNameExceptionsPartial = \epartialJazzAlt
  \set instrumentName = "Alternative"
  \set shortInstrumentName = "Alt"
  \chs
}

%% This is the Banter (1987) style. It gives exceedingly
%% verbose (wide) names, making the output file take up to 4 pages.

\new ChordNames {
  \set chordNameFunction = #banter-chordnames
  \override ChordName.font-size = -3
  \set instrumentName = "Banter"
  \set shortInstrumentName = "Ban"
  \chs
}

\new Staff \transpose c c' { \chs }
>>
\layout {
  #(layout-set-staff-size 16)
  system-system-spacing.basic-distance = 0
  \context {
    \ChordNames
    \consists "Instrument_name_engraver"
  }
  \context {
    \Score
    \remove "Bar_number_engraver"
  }
}
}

```

Ignatzek	C	Cm	C+	C°
Alternative	C	C <sup>b3</sup>	C <sup>#5</sup>	C <sup>b3</sup> <sup>b5</sup>
Banter	C <sub>/no3/no5</sub>	C <sub>3-//no3/no5</sub>	C <sub>5+//no3/no5</sub>	C <sub>3-/5-//no3/no5</sub>

Def	$C^7$	$Cm^7$	$C^\Delta$	$C^{o7}$	$Cm^\Delta b5$
Alt	$C^7$	$C^7 b3$	$C^\#7$	$C^b3 b5 b7$	$C^b3 b5 \#7$
Ban	$C^{7/11/13/15/17}$	$C^{3-/7/11/13/15/17}$	$C^{7+/11/13/15/17}$	$C^{3-/5-/7-/11/13/15/17}$	$C^{3-/5-/7+/11/13/15/17}$
Def	$C^{7 \#5}$	$Cm^\Delta$	$C^\Delta \#5$	$C^o$	
Alt	$C^{7 \#5}$	$C^b3 \#7$	$C^\#5 \#7$	$C^7 b3 b5$	
Ban	$C^{5+/7/11/13/15/17}$	$C^{3-/7+/11/13/15/17}$	$C^{5+/7+/11/13/15/17}$	$C^{3-/5-/7/11/13/15/17}$	
Def	$C^6$	$Cm^6$	$C^9$	$Cm^9$	
Alt	$C^6$	$C^b3 6$	$C^9$	$C^9 b3$	
Ban	$C^{6/11/13/15}$	$C^{3-/6/11/13/15}$	$C^{9/11/13/15/17/19/21}$	$C^{3-/9/11/13/15/17/19/21}$	
Def	$Cm^{13}$	$Cm^{11}$	$Cm^7 b5 9$	$C^7 b9$	
Alt	$C^{13 b3}$	$C^{11 b3}$	$C^9 b3 b5$	$C^7 b9$	
Ban	$C^{3-/13/15/17/19/21/23+/25}$	$C^{3-/11/13/15/17/19/21+/23}$	$C^{3-/5-/9/11/13/15/17/19/21}$	$C^{9-/13/15/17/19/21/23}$	
Def	$C^7 \#9$	$C^{11}$	$C^7 \#11$	$C^{13}$	
Alt	$C^7 \#9$	$C^{11}$	$C^9 \#11$	$C^{13}$	
Ban	$C^{9+/11/13/15/17/19/21}$	$C^{11/13/15/17/19/21+/23}$	$C^{11+/13/15/17/19/21+/23}$	$C^{13/15/17/19/21/23+/25}$	
Def	$C^7 \#11 b13$	$C^7 \#5 \#9$	$C^7 \#9 \#11$	$C^7 b13$	
Alt	$C^9 \#11 b13$	$C^7 \#5 \#9$	$C^7 \#9 \#11$	$C^{11 b13}$	
Ban	$C^{11+/13-/15/17/19/21/23+/25}$	$C^{5+/9+/11/13/15/17/19/21}$	$C^{9+/11+/13/15/17/19/21+/23}$	$C^{13-/15/17/19/21/23+/25}$	
Def	$C^7 b9 b13$	$C^7 \#11$	$C^\Delta 9$	$C^7 b13$	
Alt	$C^{11 b9 b13}$	$C^9 \#11$	$C^9 \#7$	$C^{11 b13}$	
Ban	$C^{9-/13-/15/17/19/21/23+/25}$	$C^{11+/13/15/17/19/21+/23}$	$C^{7+/9/11/13/15/17/19/21}$	$C^{13-/15/17/19/21/23+/25}$	
Def	$C^7 b9 b13$	$C^7 b9 13$	$C^\Delta 9$	$C^\Delta 13$	
Alt	$C^{11 b9 b13}$	$C^{13 b9}$	$C^9 \#7$	$C^{13 \#7}$	
Ban	$C^{9-/13-/15/17/19/21/23+/25}$	$C^{9-/13/15/17/19/21+/23}$	$C^{7+/9/11/13/15/17/19/21}$	$C^{7+/13/15/17/19/21+/23}$	
Def	$C^\Delta \#11$	$C^7 b9 13$	$C^{sus4}$	$C^7 sus4$	
Alt	$C^9 \#7 \#11$	$C^{13 b9}$	$C^{add4 5}$	$C^{add4 5 7}$	
Ban	$C^{7+/11+/13/15/17/19/21+/23}$	$C^{9-/13/15/17/19/21+/23}$	$C^{4/11/13/15/17}$	$C^{4/7/11/13/15/17}$	

Def	$C^9 \text{ sus4}$	$C^{\text{add9}}$	$C^{\text{m add11}}$	$C^{\Delta \text{ add}\sharp 11}$	$C^{\text{alt}}$
Alt	$C^{\text{add4 5 7 9}}$	$C^{\text{add9}}$	$C^{\flat 3 \text{ add11}}$	$C^{\sharp 7 \text{ add}\sharp 11}$	$C^{7 \flat 9 \flat 10 \sharp 11 \flat 13}$
Ban	$C^{4/9//\text{no3/no5/no7/no9}}$	$C^{9//\text{no3/no5/no7/no9}}$	$C^{3-/11//\text{no3/no5/no7/no9/no11+}}$	$C^{7+/11+//\text{no3/no5/no7/no9/no11+}}$	$C^{9-/10-/11+/13-/ \text{no3/no5/no7/no9/no11+}/\text{no13+}}$

## Chords with stretched fingering for FretBoards and TabVoice

Sometimes chords with a stretched fingering are required. If not otherwise specified the context property `maximumFretStretch` is set to value 4, though, resulting in a warning about “No string for pitch ...”, and the note is omitted. You may set `maximumFretStretch` to an appropriate value or explicitly assign string numbers to all notes of a chord to fix that.

```
% The code below prints two warnings for the second chord,
% which may be omitted by uncommenting the following line.
%
% #(for-each (lambda (x) (ly:expect-warning "No string for pitch")) (iota 2))
```

```
mus = {
  <c' bes'>
  <c'\2 bes'>
  \set maximumFretStretch = 5
  <c' bes'>
  <c'\2 bes'\1>
}
```

```
<<
  \new FretBoards \mus
  \new TabVoice \mus
>>
```

## Clusters («ràims»)

Els «clusters» o ràims són un mecanisme per indicar la interpretació d'un àmbit de notes al mateix temps.

```
fragment = \relative c' {
  c4 f <e d'>4
  <g a>8 <e a> a4 c2 <d b>4
  e2 c
}

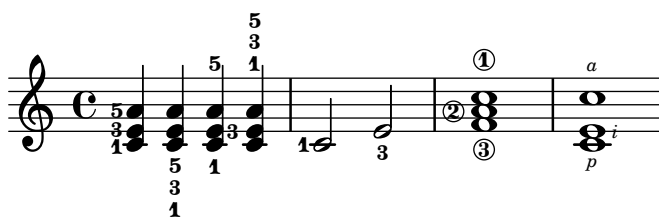
<<
  \new Staff \fragment
  \new Staff \makeClusters \fragment
>>
```



## Controlar la col·locació de les digitacions d'acords

Es pot controlar amb precisió la col·locació dels números de digitació. Perquè es tingui en compte l'orientació de les digitacions, es pot utilitzar una construcció d'acord <> tot i que siguin una sola nota.

```
\relative c' {
  \set fingeringOrientations = #'(left)
  <c-1 e-3 a-5>4
  \set fingeringOrientations = #'(down)
  <c-1 e-3 a-5>4
  \set fingeringOrientations = #'(down right up)
  <c-1 e-3 a-5>4
  \set fingeringOrientations = #'(up)
  <c-1 e-3 a-5>4
  \set fingeringOrientations = #'(left)
  <c-1>2
  \set fingeringOrientations = #'(down)
  <e-3>2
  \set stringNumberOrientations = #'(up left down)
  <f\3 a\2 c\1>1
  \set strokeFingerOrientations = #'(down right up)
  <c\rightHandFinger 1 e\rightHandFinger 2 c'\rightHandFinger 4 >
}
```



## Cross-staff chords – beaming problems workaround

Sometimes it is better to use stems from the ‘other’ staff for creating cross-staff chords to trick LilyPond’s beam collision detector. In the following snippet, if the stems from the lower staff were used instead, it would be necessary to explicitly use

```
\override Staff.Beam.collision-voice-only = ##t
```

so that LilyPond doesn’t move the beams.

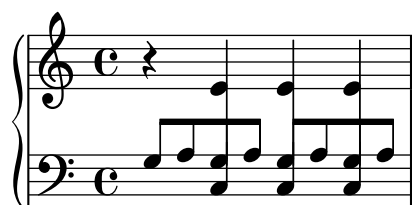
```
\new PianoStaff <<
  \new Staff = up \relative c' <<
  { r4
    \override Stem.cross-staff = ##t
    \override Stem.length = #19 % this is in half-spaces,
      % so it makes stems 9.5 staffspaces long
    \override Stem.Y-offset = #-6 % stems are normally lengthened
```

```

        % upwards, so here we must lower the stem by the amount
        % equal to the lengthening - in this case (19 - 7) / 2
        % (7 is default stem length)
    e e e }
{ s4
  \change Staff = "bottom"
  \override NoteColumn.ignore-collision = ##t
  c, c c
}
>>

\new Staff = bottom \relative c' {
  \clef bass
  \voiceOne
  g8 a g a g a g a
}
>>

```



## Customizing the chord grid style

Custom divisions of chord squares can be defined through the `measure-division-lines-alist` and `measure-division-chord-placement-alist` properties of `ChordSquare`. These are both alists. Their keys are measure divisions, namely lists which give the fraction of the measure that each chord (or rest, or skip) represents. More precisely, a measure division alist is made of positive, exact numbers adding up to 1, for example: '(1/2 1/4 1/4). The exactness requirement means that, e.g., 1/2 is valid but not 0.5.

The values in `measure-division-lines-alist` are lists of lines, which are represented as (x1 y1 x2 y2). The line starts at the point (x1 . y1) and ends at (x2 . y2). Coordinates are expressed in the [-1, 1] scale relative to the extent of the square.

The values in `measure-division-chord-placement-alist` are lists of (x . y) pairs giving the placement of the respective chords.

This example defines a peculiar chord grid style that has a rule for measures divided in three equal parts.

```

\paper {
  line-width = 10\cm
  ragged-right = ##f
}

\new ChordGrid \with {
  \override ChordSquare.measure-division-lines-alist =
    #'(((1) . ()))
    ((1/3 1/3 1/3) . ((-1 -0.4 0 1) (0 -1 1 0.4))))
  \override ChordSquare.measure-division-chord-placement-alist =
    #'(((1) . ((0 . 0)))
    ((1/3 1/3 1/3) . ((-0.7 . 0.5) (0 . 0) (0.7 . -0.5))))
}

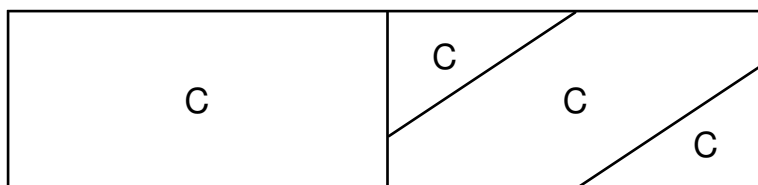
```



```

}
\chordmode {
  \time 3/4
  c2.
  c4 c4 c4
}

```



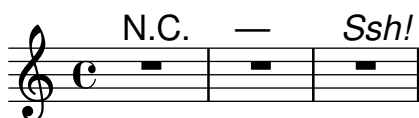
## Customizing the no-chord symbol

By default, rests in a ChordNames context cause the text “N.C.” to be printed. This markup can be customized by setting the `noChordSymbol` context property.

```

<<
\chords {
  R1
  \set noChordSymbol = "----"
  R1
  \set noChordSymbol = \markup \italic "Ssh!"
  R1
}
{
  R1*3
}
>>

```



## Display non-English chord names

The default English naming of chords can be changed to other languages, as demonstrated in this snippet.

```

scm = \chordmode {
  c1/c | cis/cis
  b1/b | bis/bis | bes/bes
}

\layout {
  indent = 3\cm
  ragged-right = ##f

  \context {
    \ChordNames
    \consists "Instrument_name_engraver"
  }
  \context {

```


```

\Score
\override InstrumentName.self-alignment-Y = -1.2
\override InstrumentName.self-alignment-X = #RIGHT
}
}

<<
\new ChordNames {
  \set instrumentName = #"default"
  \scm
}
\new ChordNames {
  \set instrumentName = #"german"
  \germanChords \scm
}
\new ChordNames {
  \set instrumentName = #"semi-german"
  \semiGermanChords \scm
}
\new ChordNames {
  \set instrumentName = #"italian"
  \italianChords \scm
}
\new ChordNames {
  \set instrumentName = #"french"
  \frenchChords \scm
}
\context Voice { \scm }
>>

```

default	C/C	C#/C#	B/B	B#/B#	Bb/Bb
german	C/c	C#/cis	H/h	H#/his	B/b
semi-german	C/c	C#/cis	H/h	H#/his	Bb/b
italian	Do/Do	Do #/Do #	Si/Si	Si #/Si #	Si b/Si b
french	Do/Do	Do #/Do #	Si/Si	Si #/Si #	Si b/Si b



## Impressió d'acords complexos

Aquí es presenta una forma d'imprimir un acord en la qual sona la mateixa nota dues vegades amb diferents alteracions.

```

fixA = {
  \once \override Stem.length = #12
}

fixB = {
  \once \override NoteHead.X-offset = #1.7
}

```

```

\once \override Stem.length = #7
\once \override Stem.rotation = #'(45 0 0)
\once \override Stem.extra-offset = #'(-0.1 . -0.2)
\once \override Flag.style = #'no-flag
\once \override Accidental.extra-offset = #'(4 . -.1)
}

\relative c' {
  << { \fixA <b d!>8 } \ { \voiceThree \fixB dis } >> s
}

```



## Dividir manualment les línies d'extensió del baix xifrat per certs números solament

Sovint, el baix figurat usa línies d'extensió per indicar la continuació de l'element corresponent dins de l'acord. No obstant, en aquest cas el LilyPond està en mode “modo voraç” i usa els extensors quan és possible. Per dividir els extensors individuals, podem senzillament usar el modificador `\!` per a un número, cosa que trenca qualsevol línia d'extensió atribuïda a aquest número just abans del número.

```

bassfigures = \figuremode {
  \set useBassFigureExtenders = ##t
  <6 4>4 <6 4\!> <6 4\!> <6 4\!> |
  <6\! 4\!> <6 4> <6 4\!> <6 4>
}

```

```

<<
  \new Staff \relative c'' { c1 c1 }
  \new FiguredBass \bassfigures
>>

```



## Print chord names with same root and different bass as slash and bass note

To print subsequent ChordNames only differing in its bass note as slash and bass note, use the Scheme engraver defined in this snippet. The behaviour may be controlled in detail by the `chordChanges` context property.

```

#(define Bass_changes_equal_root_engraver
  (lambda (ctx)
    "For sequential `ChordNames` with the same root but a different bass,
    the root markup is dropped: D D/C D/B -> D /C /B.
    The behaviour may be controlled by setting the `chordChanges` context
    property."
    (let ((chord-pitches '()))

```

```

(last-chord-pitches '())
(bass-pitch #f))
(make-engraver
((initialize this-engraver)
 (let ((chord-note-namer (ly:context-property ctx
                                              'chordNoteNamer)))
   ;; Set 'chordNoteNamer, respect user setting if already done
   (ly:context-set-property! ctx 'chordNoteNamer
                             (if (procedure? chord-note-namer)
                                 chord-note-namer
                                 note-name->markup))))))

(listeners
 (note-event this-engraver event)
 (let* ((pitch (ly:event-property event 'pitch))
        (pitch-name (ly:pitch-notename pitch))
        (pitch-alt (ly:pitch-alteration pitch))
        (bass (ly:event-property event 'bass #f))
        (inversion (ly:event-property event 'inversion #f)))
   ;; Collect notes of the chord
   ;; - to compare inversed chords we need to collect the
   ;;   bass note as usual member of the chord, whereas an
   ;;   added bass must be treated separate from the usual
   ;;   chord-notes
   ;; - notes are stored as pairs containing their
   ;;   pitch-name (an integer), i.e. disregarding their
   ;;   octave and their alteration
   (cond (bass (set! bass-pitch pitch))
         (inversion
          (set! bass-pitch pitch)
          (set! chord-pitches
                (cons (cons pitch-name pitch-alt)
                      chord-pitches)))
         (else
          (set! chord-pitches
                (cons (cons pitch-name pitch-alt)
                      chord-pitches))))))

(acknowledgers
 ((chord-name-interface this-engraver grob source-engraver)
  (let ((chord-changes (ly:context-property ctx
                                              'chordChanges #f)))
    ;; If subsequent chords are equal apart from their bass,
    ;; reset the 'text-property.
    ;; Equality is done by comparing the sorted lists of this
    ;; chord's elements and the previous chord. Sorting is
    ;; needed because inverted chords may have a different
    ;; order of pitches. `chord-changes` needs to be true.
    (if (and bass-pitch
              chord-changes
              (equal?
               (sort chord-pitches car<)
```

```

        (sort last-chord-pitches car<)))
      (ly:grob-set-property!
        grob 'text
        (make-line-markup
          (list
            (ly:context-property ctx 'slashChordSeparator)
            ((ly:context-property ctx 'chordNoteNamer)
              bass-pitch
              (ly:context-property ctx
                'chordNameLowercaseMinor))))))
      (set! last-chord-pitches chord-pitches)
      (set! chord-pitches '())
      (set! bass-pitch #f))))

((finalize this-engraver)
 (set! last-chord-pitches '())))))

myChords = \chordmode {
  % \germanChords

  \set chordChanges = ##t
  d2:m d:m/cis

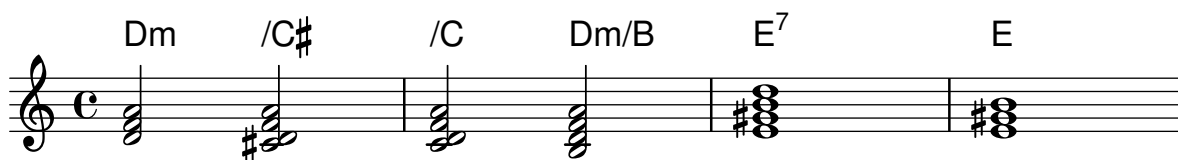
  d:m/c
  \set chordChanges = ##f
  d:m/b

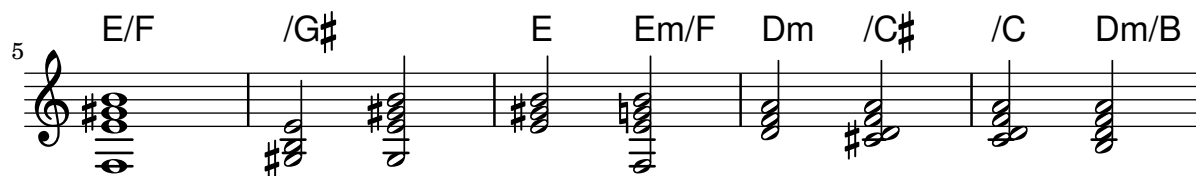
  e1:7
  \set chordChanges = ##t
  e
  \break

  \once \set chordChanges = ##f
  e1/f
  e2/gis e/+gis e e:m/f d:m d:m/cis d:m/c
  \set chordChanges = ##f
  d:m/b
}

<<
\new ChordNames
  \with { \consists #Bass_changes_equal_root_engraver }
  \myChords
\new Staff \myChords
>>

```





## Imprimir els acords quan es produeix un canvi

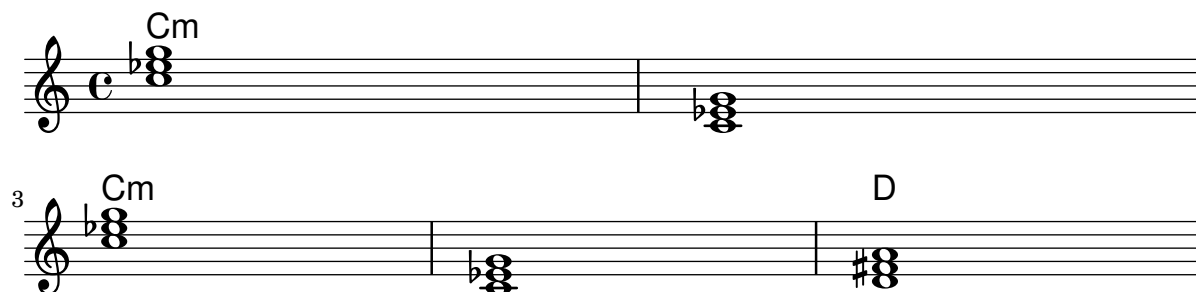
Es poden imprimir els acords exclusivament al començament de les línies i quan canvia l'acord.

```

harmonies = \chordmode {
  c'1:m c:m \break
  c'1:m c:m d
}

<<
\new ChordNames {
  \set chordChanges = ##t
  \harmonies
}
\new Staff {
  \harmonies
}
>>

```



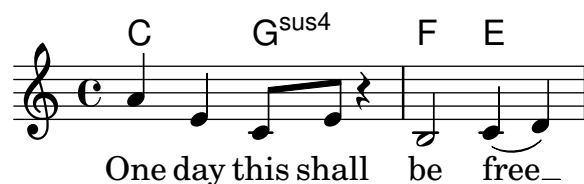
## Full guia d'acords o «lead sheet» senzilla

En ajuntar noms d'acord en xifrat americà, melodia i lletra, obtenim un full d'acord os «lead sheet»:

```

<<
\chords { c2 g:sus4 f e }
\new Staff \relative c'' {
  a4 e c8 e r4
  b2 c4( d)
}
\addlyrics { One day this shall be free __ }
>>

```



## Plantilla de pentagrama únic amb música, lletra i acords

Aquesta plantilla facilita la preparació d'una cançó amb melodia, lletra i acords.

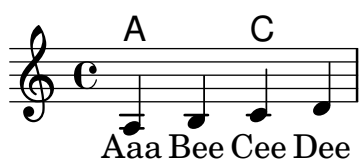
```
melody = \relative c' {
  \clef treble
  \key c \major
  \time 4/4

  a4 b c d
}

text = \lyricmode {
  Aaa Bee Cee Dee
}

harmonies = \chordmode {
  a2 c
}

\score {
  <<
    \new ChordNames {
      \set chordChanges = ##t
      \harmonies
    }
    \new Voice = "one" { \autoBeamOff \melody }
    \new Lyrics \lyricsto "one" \text
  >>
  \layout { }
  \midi { }
}
```



## Single-staff template with notes, lyrics, chords, and frets

Here is a simple lead sheet template with melody, lyrics, chords, and fret diagrams.

```
verseI = \lyricmode {
  \set stanza = #"1."
  This is the first verse
}

verseII = \lyricmode {
  \set stanza = #"2."
  This is the second verse.
}

theChords = \chordmode {
  % insert chords for chordnames and fretboards here
```

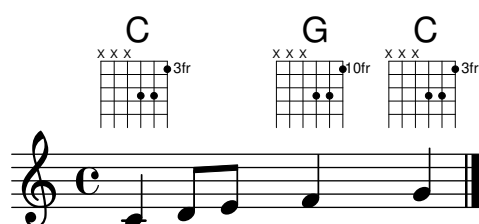
```

c2 g4 c
}

staffMelody = \relative c' {
  \key c \major
  \clef treble
  % Type notes for melody here
  c4 d8 e f4 g
  \bar "|"
}

\score {
  <<
    \context ChordNames { \theChords }
    \context FretBoards { \theChords }
    \new Staff {
      \context Voice = "voiceMelody" { \staffMelody }
    }
    \new Lyrics = "lyricsI" {
      \lyricsto "voiceMelody" \verseI
    }
    \new Lyrics = "lyricsII" {
      \lyricsto "voiceMelody" \verseII
    }
  >>
  \layout { }
  \midi { }
}

```



1. This is the first verse
2. This is the second verse.

## Plantilla de pentagrama únic amb música i acords

Voleu preparar un full guia d'acords (o «lead sheet») amb melodia i acords? No busqueu més!

```

melody = \relative c' {
  \clef treble
  \key c \major
  \time 4/4

  f4 e8[ c] d4 g |
  a2 ~ a
}

harmonies = \chordmode {
  c4:m f:min7 g:maj c:aug |
}

```



```

d2:dim b4:5 e:sus
}

\score {
  <<
    \new ChordNames {
      \set chordChanges = ##t
      \harmonies
    }
    \new Staff \melody
  >>
  \layout{ }
  \midi { }
}

```



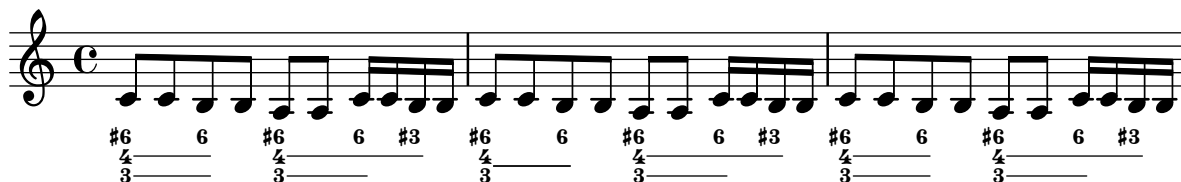
## Centrat vertical de les línies de baix xifrat emparellades

Al lloc on s'utilitzin línies extensores per al baix xifrat mitjançant l'establiment de `useBassFigureExtenders` al valor vertader, les parelles de línies extensores congruents se centren verticalment si el valor de `figuredBassCenterContinuations` té el valor vertader.

```

<<
  \relative c' {
    \repeat unfold 3 {
      c8 c b b a a c16 c b b
    }
  }
  \figures {
    \set useBassFigureExtenders = ##t
    <6+ 4 3>4 <6 4 3>8 r
    <6+ 4 3>4 <6 4 3>8 <4 3+>16 r
    \set figuredBassCenterContinuations = ##t
    <6+ 4 3>4 <6 4 3>8 r
    <6+ 4 3>4 <6 4 3>8 <4 3+>16 r
    \set figuredBassCenterContinuations = ##f
    <6+ 4 3>4 <6 4 3>8 r
    <6+ 4 3>4 <6 4 3>8 <4 3+>16 r
  }
>>

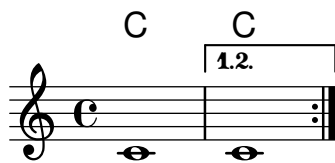
```



## Corxets de primera i segona vegada a sota dels acords

Mitjançant l'addició del gravador `Volta_engraver` al pentagrama pertinent, es poden posar els corxets de primera i segona veu a sota dels acords.

```
\score {
  <<
    \chords { c1 c1 }
    \new Staff \with { \consists "Volta_engraver" }
    {
      \repeat volta 2 { c'1 \alternative { c' } }
    }
  >>
  \layout {
    \context {
      \Score
      \remove "Volta_engraver"
    }
  }
}
```



## 11 Keyboard and other multi-staff instruments

See also Secció “Keyboard and other multi-staff instruments” in *Referencia de la Notación*.

### Accordion register symbols

Accordion register symbols are available as \markup as well as as standalone music events (as register changes tend to occur between actual music events). Bass registers are not overly standardized. The available commands can be found in ‘Discant symbols’ in the Notation Reference (<https://lilypond.org/doc/v2.24/Documentation/notation/accordion#discant-symbols>).

```
#(use-modules (lily accreg))
```

```
\new PianoStaff <<
  \new Staff \relative {
    \clef treble
    \discant "10"
    r8 s32 f'[ bes f] s e[ a e] s d[ g d] s16 e32[ a]
    <<
      { r16 <f bes> r <e a> r <d g> }
      \\
      { d r a r bes r }
    >> |
    <cis e a>1
  }

  \new Staff \relative {
    \clef treble
    \freeBass "1"
    r8 d'32 s16. c32 s16. bes32 s16. a32[ cis] s16
    \clef bass \stdBass "Master"
    <<
      { r16 <f, bes d>^~"b" r <e a c>^~"am" r <d g bes>^~"gm" |
        <e a cis>1^~"a" }
      \\
      { d8_"D" c_"C" bes_"B" | a1_"A" }
    >>
  }
>>
```

The image displays a musical score for a Piano and an Accordion. The Piano part is written on two staves (treble and bass). The Accordion part is written on a single staff with a treble clef. The score is in common time (C). The Piano part begins with a series of eighth and sixteenth notes, followed by a series of chords labeled D, C, B, and A. The Accordion part begins with a series of chords labeled b, am, gm, and a. The score is a demonstration of the use of accordion register symbols in LilyPond.

## Modificar el text de las indicacions de pedal

Es pot usar `Staff.pedalSustainStrings` per fixar el text de les indicacions de pisar pedal i aixecar pedal. Observeu que les úniques cadenes vàlides són les que estan a la llista de glifs de pedal: els valors que apareixen en aquest fragment de codi són una relació exhaustiva.

```
sustainNotes = { c4\sustainOn d e\sustainOff\sustainOn f\sustainOff }
```

```
\relative c' {
  \sustainNotes
  \set Staff.pedalSustainStrings = #'("P" "P-" "-")
  \sustainNotes
  \set Staff.pedalSustainStrings = #'("d" "de" "e")
  \sustainNotes
  \set Staff.pedalSustainStrings = #'("M" "M-" "-")
  \sustainNotes
  \set Staff.pedalSustainStrings = #'("Ped" "*Ped" "*")
  \sustainNotes
}
```

```
\layout {
  ragged-right = ##f
}
```

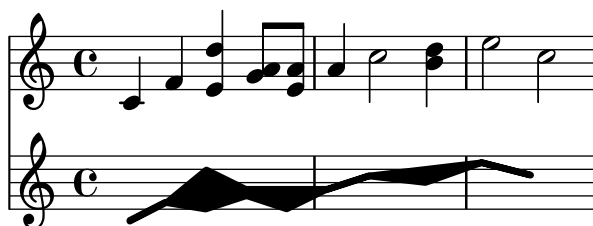


## Clusters («raïms»)

Els «clusters» o raïms són un mecanisme per indicar la interpretació d'un àmbit de notes al mateix temps.

```
fragment = \relative c' {
  c4 f <e d'>4
  <g a>8 <e a> a4 c2 <d b>4
  e2 c
}
```

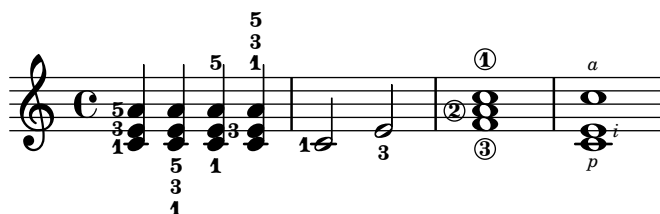
```
<<
  \new Staff \fragment
  \new Staff \makeClusters \fragment
>>
```



## Controlar la col·locació de les digitacions d'acords

Es pot controlar amb precisió la col·locació dels números de digitació. Perquè es tingui en compte l'orientació de les digitacions, es pot utilitzar una construcció d'acord <> tot i que siguin una sola nota.

```
\relative c' {
  \set fingeringOrientations = #'(left)
  <c-1 e-3 a-5>4
  \set fingeringOrientations = #'(down)
  <c-1 e-3 a-5>4
  \set fingeringOrientations = #'(down right up)
  <c-1 e-3 a-5>4
  \set fingeringOrientations = #'(up)
  <c-1 e-3 a-5>4
  \set fingeringOrientations = #'(left)
  <c-1>2
  \set fingeringOrientations = #'(down)
  <e-3>2
  \set stringNumberOrientations = #'(up left down)
  <f\3 a\2 c\1>1
  \set strokeFingerOrientations = #'(down right up)
  <c\rightHandFinger 1 e\rightHandFinger 2 c'\rightHandFinger 4 >
}
```



## Fer lligadures entre veus diferents

En determinades situacions cal crear lligadures d'expressió entre notes que estan a veus diferents.

La solució és afegir notes invisible a una de les veus utilitzant `\hideNotes`.

Aquest exemple és el compàs 235 de la Chacona de la segona Partita per a violí sol, BWV 1004, de Bach.

```
\relative c' {
  <<
  {
    d16( a') s a s a[ s a] s a[ s a]
  }
  \\\
  {
    \slurUp
    bes,16[ s e](
    \hideNotes a)
    \unHideNotes f[(
    \hideNotes a)
    \unHideNotes fis](
    \hideNotes a)
    \unHideNotes g[(
```

```

        \hideNotes a)
        \unHideNotes gis](
        \hideNotes a)
    }
>>
}

```



## Cross-staff chords – beaming problems workaround

Sometimes it is better to use stems from the ‘other’ staff for creating cross-staff chords to trick LilyPond’s beam collision detector. In the following snippet, if the stems from the lower staff were used instead, it would be necessary to explicitly use

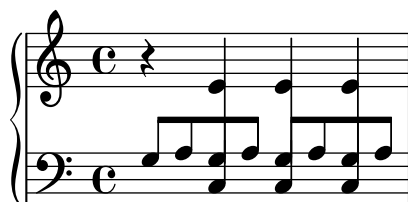
```

        \override Staff.Beam.collision-voice-only = ##t
    so that LilyPond doesn't move the beams.

\new PianoStaff <<
  \new Staff = up \relative c' <<
    { r4
      \override Stem.cross-staff = ##t
      \override Stem.length = #19 % this is in half-spaces,
        % so it makes stems 9.5 staffspaces long
      \override Stem.Y-offset = #-6 % stems are normally lengthened
        % upwards, so here we must lower the stem by the amount
        % equal to the lengthening - in this case (19 - 7) / 2
        % (7 is default stem length)
      e e e }
    { s4
      \change Staff = "bottom"
      \override NoteColumn.ignore-collision = ##t
      c, c c
    }
  >>

  \new Staff = bottom \relative c' {
    \clef bass
    \voiceOne
    g8 a g a g a g a
  }
>>

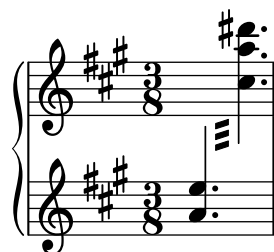
```



## Trèmolos de pentagrama creuat

Atès que `\repeat tremolo` espera exactament dos arguments musicals per als trèmolos d'acord, la nota o acord que canvia de pentagrama a un trèmol que creua el pentagrama s'ha de col·locar dins de claus corbes junt a la seva ordre `\change Staff`.

```
\new PianoStaff <<
  \new Staff = "up" \relative c'' {
    \key a \major
    \time 3/8
    s4.
  }
  \new Staff = "down" \relative c'' {
    \key a \major
    \time 3/8
    \voiceOne
    \repeat tremolo 6 {
      <a e'>32
      {
        \change Staff = "up"
        \voiceTwo
        <cis a' dis>32
      }
    }
  }
}
>>
```



## Ajustament fi de les línies de pedal

Es pot alterar l'aspecte de les línies de pedal de diverses formes.

```
\paper {
  ragged-right = ##f
}

\relative c'' {
  c2\sostenutoOn c
  c2\sostenutoOff c
  c2\tweak shorten-pair #'(-7 . -2) \sostenutoOn c
  c2\sostenutoOff c
  c2\tweak edge-height #'(0 . 3) \sostenutoOn c
  c2\sostenutoOff c
}
```



## Indicar acords de pentagrama creuat amb claudàtors d'arpegi

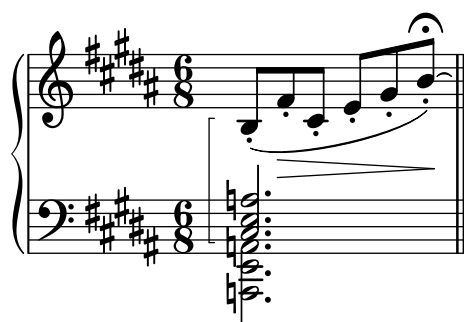
Un claudàtor d'arpegi pot indicar que s'han de tocar amb la mateixa mà notes que estan en dos pentagrames diferents. Per fer-ho, el `PianoStaff` s'ha de configurar perquè accepti símbols d'arpegi de pentagrama creuat i els símbols d'arpegi s'han de configurar a la forma de claudàtor en el context de `PianoStaff`.

(Debussy, Les collines d'Anacapri, m. 65)

```
\new PianoStaff <<
  \set PianoStaff.connectArpeggios = ##t
  \override PianoStaff.Arpeggio.stencil =
    #ly:arpeggio::brew-chord-bracket

  \new Staff \relative c' {
    \key b \major
    \time 6/8
    b8-.(\arpeggio fis'-.\> cis-.
      e-. gis-. b-.)\!\fermata^\laissezVibrer \bar "||"
  }

  \new Staff \relative c' {
    \clef bass
    \key b \major
    << { <a e cis>2.\arpeggio } \\\
      { <a, e a,>2. } >>
  }
>>
```



## Plantilla per a combo de jazz

Això és una plantilla força avançada, per a un conjunt de jazz. Observeu que la notació de tots els instruments està a `\key c \major` (Do major). Això es refereix al to de concert; l'armadura es transporta automàticament si la música està dins d'una secció `\transpose`.

```
\header {
  title = "Song"
  subtitle = "(tune)"
  composer = "Me"
  meter = "moderato"
```



```

piece = "Swing"
tagline = \markup \column {
    "LilyPond example file by Amelie Zapf,"
    "Berlin 07/07/2003" }
}

% To make the example display properly in the documentation.
\paper {
    paper-width = 130\mm
    paper-height = 205\mm
}

% #(set-global-staff-size 16)

\include "english.ly"

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% Some macros %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

sl = { \override NoteHead.style = #'slash
       \hide Stem }
nsl = { \revert NoteHead.style
        \undo \hide Stem }
crOn = \override NoteHead.style = #'cross
crOff = \revert NoteHead.style

% Insert chord name style stuff here.

jazzChords = { }

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% Keys'n'things %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

global = { \time 4/4 }

Key = { \key c \major }

% ##### Horns #####

% ----- Trumpet -----
trpt = \transpose c d \relative c' {
    \Key
    c1 | c | c |
}
trpHarmony = \transpose c' d {
    \jazzChords
}
trumpet = {
    \global
    \clef treble
    \trpt
}

```

```

% ----- Alto Saxophone -----
alto = \transpose c a \relative c' {
  \Key
  c1 | c | c |
}
altoHarmony = \transpose c' a {
  \jazzChords
}
altoSax = {
  \global
  \clef treble
  \alto
}

% ----- Baritone Saxophone -----
bari = \transpose c a' \relative c {
  \Key
  c1 | c1 |
  \sl d4^"Solo" d d d \ns1 |
}
bariHarmony = \transpose c' a \chordmode {
  \jazzChords
  s1 | s |
  d2:maj e:m7 |
}
bariSax = {
  \global
  \clef treble
  \bari
}

% ----- Trombone -----
tbone = \relative c {
  \Key
  c1 | c | c |
}
tboneHarmony = \chordmode {
  \jazzChords
}
trombone = {
  \global
  \clef bass
  \tbone
}

% ##### Rhythm Section #####

% ----- Guitar -----
gtr = \relative c'' {
  \Key
  c1 |

```

```

    \sl b4 b b b \ns1 |
    c1 |
}
gtrHarmony = \chordmode {
  \jazzChords
  s1 | c2:min7+ d2:maj9 | s1 |
}
guitar = {
  \global
  \clef treble
  \gtr
}

%% ----- Piano -----
rhUpper = \relative c'' {
  \voiceOne
  \Key
  c1 | c | c |
}
rhLower = \relative c' {
  \voiceTwo
  \Key
  e1 | e | e |
}

lhUpper = \relative c' {
  \voiceOne
  \Key
  g1 | g | g |
}
lhLower = \relative c {
  \voiceTwo
  \Key
  c1 | c | c |
}

PianoRH = {
  \clef treble
  \global
  <<
    \new Voice = "one" \rhUpper
    \new Voice = "two" \rhLower
  >>
}
PianoLH = {
  \clef bass
  \global
  <<
    \new Voice = "one" \lhUpper
    \new Voice = "two" \lhLower
  >>
}

```

```

piano = <<
  \new Staff = "upper" \PianoRH
  \new Staff = "lower" \PianoLH
>>

% ----- Bass Guitar -----
Bass = \relative c {
  \Key
  c1 | c | c |
}
bass = {
  \global
  \clef bass
  \Bass
}

% ----- Drums -----
up = \drummode {
  \voiceOne
  hh4 <hh sn> hh <hh sn> |
  hh4 <hh sn> hh <hh sn> |
  hh4 <hh sn> hh <hh sn> |
}
down = \drummode {
  \voiceTwo
  bd4 s bd s |
  bd4 s bd s |
  bd4 s bd s |
}

drumContents = {
  \global
  <<
    \new DrumVoice \up
    \new DrumVoice \down
  >>
}

%%%%%%%%%% It All Goes Together Here %%%%%%%%%%%

\book { % For the LilyPond documentation.
  \score {
    <<
      \new StaffGroup = "horns" <<
        \new Staff = "trumpet" \with { instrumentName = "Trumpet" }
        \trumpet
        \new Staff = "altosax" \with { instrumentName = "Alto Sax" }
        \altoSax
        \new ChordNames = "barichords" \with { instrumentName = "Bari Sax" }
        \bariHarmony
    >>
  }
}

```

```

\new Staff = "barisax" \with { instrumentName = "Bari Sax" }
  \bariSax
\new Staff = "trombone" \with { instrumentName = "Trombone" }
  \trombone
>>

\new StaffGroup = "rhythm" <<
  \new ChordNames = "chords" \with { instrumentName = "Guitar" }
    \gtrHarmony
  \new Staff = "guitar" \with { instrumentName = "Guitar" }
    \guitar
  \new PianoStaff = "piano" \with {
    instrumentName = "Piano"
    midiInstrument = "acoustic grand"
  } \piano
  \new Staff = "bass" \with { instrumentName = "Bass" }
    \bass
  \new DrumStaff \with { instrumentName = "Drums" }
    \drumContents
>>
>>

\layout {
  \context {
    \Staff
    \RemoveEmptyStaves
  }
  \context {
    \Score
    \override BarNumber.padding = 3
    \override RehearsalMark.padding = 2
    skipBars = ##t
  }
}
\midi { }
}

```

## Song

(tune)

Me

moderato  
Swing

Trumpet

Alto Sax

Bari Sax

Trombone

Guitar

Piano

Bass

Drums

B<sup>Δ</sup> C<sup>#</sup>m<sup>7</sup>  
Solo

Cm<sup>Δ</sup> D<sup>Δ</sup>9

LilyPond example file by Amelie Zapf,  
Berlin 07/07/2003

## Lligaduras “Laissez vibrer”

Les lligadures “Laissez vibrer” (deixar vibrar) tenen una mida fixa. Es pot ajustar el seu format usant 'tie-configuration.

```
\relative c' {
  <c e g>4\laissezVibrer r <c f g>\laissezVibrer r
  <c d f g>4\laissezVibrer r <c d f g>4.\laissezVibrer r8

  <c d e f>4\laissezVibrer r
  \override LaissezVibrerTieColumn.tie-configuration
    = #`((-7 . ,DOWN)
      (-5 . ,DOWN)
```

```

      (-3 . ,UP)
      (-1 . ,UP))
<c d e f>4\laissezVibrer r
}

```



## Plantilla de piano (senzilla)

Presentem a continuació una plantilla de piano senzilla amb algunes notes.

```

upper = \relative c'' {
  \clef treble
  \key c \major
  \time 4/4

  a4 b c d
}

lower = \relative c {
  \clef bass
  \key c \major
  \time 4/4

  a2 c
}

\score {
  \new PianoStaff \with { instrumentName = "Piano" }
  <<
    \new Staff = "upper" \upper
    \new Staff = "lower" \lower
  >>
  \layout { }
  \midi { }
}

```



## Plantilla de piano amb lletra centrada

En comptes de tenir un pentagrama dedicat a la melodia i la lletra, la lletra es pot centrar entre els pentagrames d'un sistema de piano.

```

upper = \relative c'' {
  \clef treble
  \key c \major
  \time 4/4

```

```

    a4 b c d
}

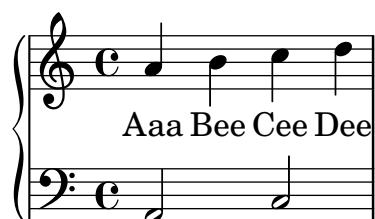
lower = \relative c {
  \clef bass
  \key c \major
  \time 4/4

  a2 c
}

text = \lyricmode {
  Aaa Bee Cee Dee
}

\score {
  \new PianoStaff <<
    \new Staff = upper { \new Voice = "singer" \upper }
    \new Lyrics \lyricsto "singer" \text
    \new Staff = lower { \lower }
  >>
  \layout { }
  \midi { }
}

```



## Plantilla de piano amb melodia i lletra

Vet aquí el típic format d'una cançó: un pentagrama amb la melodia i la lletra, i el acompanyament de piano per sota.

```

melody = \relative c'' {
  \clef treble
  \key c \major
  \time 4/4

  a b c d
}

text = \lyricmode {
  Aaa Bee Cee Dee
}

upper = \relative c'' {
  \clef treble
  \key c \major

```



```

\time 4/4

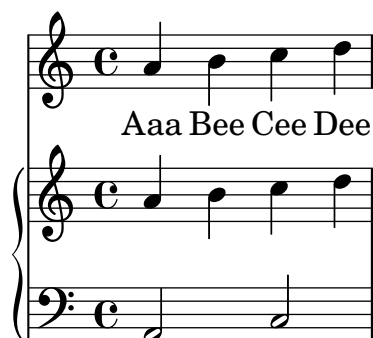
a4 b c d
}

lower = \relative c {
  \clef bass
  \key c \major
  \time 4/4

  a2 c
}

\score {
  <<
    \new Voice = "mel" { \autoBeamOff \melody }
    \new Lyrics \lyricsto mel \text
    \new PianoStaff <<
      \new Staff = "upper" \upper
      \new Staff = "lower" \lower
    >>
  >>
  \layout {
    \context { \Staff \RemoveEmptyStaves }
  }
  \midi { }
}

```



## Removing brace on first line of piano score

This snippet removes the first brace from a PianoStaff or a GrandStaff, together with the clefs. It may be useful when cutting and pasting the engraved image into existing music.

The code uses `\alterBroken` to hide the brace delimiter at the beginning.

```

someMusic = {
  \once \omit Staff.Clef
  \once \omit Staff.TimeSignature
  \repeat unfold 3 c1 \break
  \repeat unfold 5 c1 \break
  \repeat unfold 5 c1
}

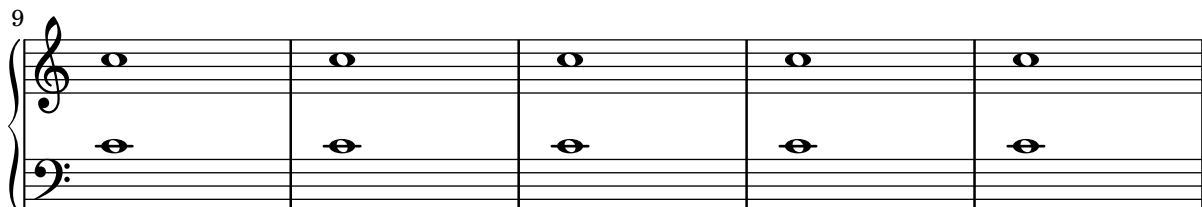
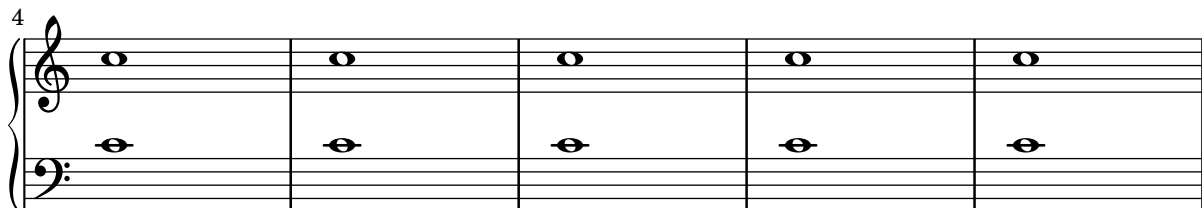
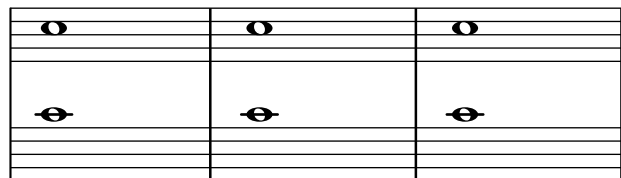
\score {

```

```

\new PianoStaff
<<
  \new Staff = "right" \relative c' { \someMusic
  \new Staff = "left" \relative c' { \clef F \someMusic }
>>
\layout {
  indent=75\mm
  \context {
    \PianoStaff
    \alterBroken transparent #'(#t) SystemStartBrace
  }
}

```



## Using \autoChange with more than one voice

Here is a demonstration of how to use \autoChange with more than one voice.

```

\score {
  \new PianoStaff
  <<
    \new Staff = "up" {
      <<
        \set Timing.beamExceptions = #'()
        \set Timing.beatStructure = #'(4)
        \new Voice {
          \voiceOne
          \autoChange
          \relative c' {
            g8 a b c d e f g
            g,8 a b c d e f g
          }
        }
      >>
    }
  >>
}

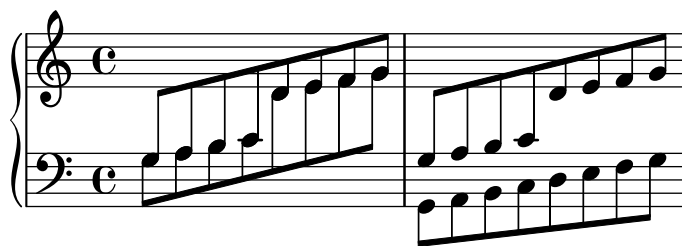
```

```

\new Voice {
  \voiceTwo
  \autoChange
  \relative c' {
    g8 a b c d e f g
    g,,8 a b c d e f g
  }
}
>>
}

\new Staff = "down" {
  \clef bass
}
>>
}

```



## Plantilla de conjunt vocal amb reducció de piano automàtica

Aquesta plantilla afegeix una reducció de piano automàtica a la partitura vocal SATB estàndard que es va mostrar a la “Plantilla de conjunt vocal”. Això presenta un dels punts forts del LilyPond: podem usar una definició de música més d’un cop. Si es fa qualsevol canvi a les notes de la part vocal (diguem `tenorMusic`), aleshores els canvis s’aplicaran també a la reducció de piano.

```

\paper {
  top-system-spacing.basic-distance = 10
  score-system-spacing.basic-distance = 20
  system-system-spacing.basic-distance = 20
  last-bottom-spacing.basic-distance = 10
}

global = {
  \key c \major
  \time 4/4
}

sopMusic = \relative {
  c''4 c c8[( b)] c4
}
sopWords = \lyricmode {
  hi hi hi hi
}

altoMusic = \relative {

```

```

    e'4 f d e
}
altoWords = \lyricmode {
    ha ha ha ha
}

tenorMusic = \relative {
    g4 a f g
}
tenorWords = \lyricmode {
    hu hu hu hu
}

bassMusic = \relative {
    c4 c g c
}
bassWords = \lyricmode {
    ho ho ho ho
}

\score {
  <<
    \new ChoirStaff <<
      \new Lyrics = "sopranos" \with {
        % This is needed for lyrics above a staff
        \override VerticalAxisGroup.staff-affinity = #DOWN
      }
      \new Staff = "women" <<
        \new Voice = "sopranos" { \voiceOne << \global \sopMusic >> }
        \new Voice = "altos" { \voiceTwo << \global \altoMusic >> }
      >>
      \new Lyrics = "altos"

      \new Lyrics = "tenors" \with {
        % This is needed for lyrics above a staff
        \override VerticalAxisGroup.staff-affinity = #DOWN
      }
      \new Staff = "men" <<
        \clef bass
        \new Voice = "tenors" { \voiceOne << \global \tenorMusic >> }
        \new Voice = "basses" { \voiceTwo << \global \bassMusic >> }
      >>
      \new Lyrics = "basses"

      \context Lyrics = "sopranos" \lyricsto "sopranos" \sopWords
      \context Lyrics = "altos" \lyricsto "altos" \altoWords
      \context Lyrics = "tenors" \lyricsto "tenors" \tenorWords
      \context Lyrics = "basses" \lyricsto "basses" \bassWords
    >>

    \new PianoStaff <<
      \new Staff <<

```

```

\set Staff.printPartCombineTexts = ##f
\partCombine
<< \global \sopMusic >>
<< \global \altoMusic >>
>>
\new Staff <<
  \clef bass
  \set Staff.printPartCombineTexts = ##f
  \partCombine
  << \global \tenorMusic >>
  << \global \bassMusic >>
>>
>>
>>
}

```

hi hi hi hi

ha ha ha ha

hu hu hu hu

ho ho ho ho

## 12 Percussion

See also Secció “Percussion” in *Referencia de la Notación*.

### Esriptura de parts de percussió

Mitjançant la utilització de les potents eines preconfigurades com la funció `\drummode` i el context `DrumStaff`, la introducció de parts per a percussió és molt fàcil: les percussions se situen en les seves pròpies posicions de pentagrama (amb una clau especial) i tenen els caps corresponents a l'instrument. És possible afegir un símbol addicional a la percussió o reduir el nombre de línies.

```

drh = \drummode {
    cymc4.^"crash" hhc16^"h.h." hh hhc8 hho hhc8 hh16 hh
    hhc4 r4 r2
}
drl = \drummode {
    bd4 sn8 bd bd4 << bd ss >>
    bd8 tommh tommh bd toml toml bd tomfh16 tomfh
}
timb = \drummode {
    timh4 ssh timl8 ssh r timh r4
    ssh8 timl r4 cb8 cb
}

\score {
  <<
    \new DrumStaff \with {
      instrumentName = "timbales"
      drumStyleTable = #timbales-style
      \override StaffSymbol.line-count = #2
      \override BarLine.bar-extent = #'(-1 . 1)
    }
    <<
      \timb
    >>
    \new DrumStaff \with { instrumentName = "drums" }
    <<
      \new DrumVoice { \stemUp \drh }
      \new DrumVoice { \stemDown \drl }
    >>
  >>
  \layout { }
  \midi { \tempo 4 = 120 }
}

```

The image shows a musical score for two percussion instruments: timbales and drums. The timbales part is on the top staff, and the drums part is on the bottom staff. The timbales part includes a crash cymbal, hi-hat (h.h.), and various drum patterns. The drums part includes a bass drum, snare drum, and tom-tom patterns. The score is in 4/4 time and includes a tempo marking of 4 = 120.

## Cow and ride bell example

Two different bells, entered with ‘cb’ (cow bell) and ‘rb’ (ride bell).

```

#(define mydrums '((ridebell default #f 3)
                    (cowbell default #f -2)))

\new DrumStaff \with { instrumentName = #"Different Bells" }

\drummode {
  \set DrumStaff.drumStyleTable = #(alist->hash-table mydrums)
  \set DrumStaff.clefPosition = 0.5
  \override DrumStaff.StaffSymbol.line-positions = #'(-2 3)
  \override Staff.BarLine.bar-extent = #'(-1.0 . 1.5)

  \time 2/4
  rb8 8 cb8 16 rb16-> ~ |
  16 8 16 cb8 8 |
}

```



## Indicacions polimètriques de compàs totalment personalitzades

Tot i que l'element més essencial no és la indicació polimètrica de compàs que es mostra, s'ha inclòs per mostrar la pulsació de la peça, que és la plantilla d'una cançó real dels Balcans.

```
melody = \relative c'' {
  \key g \major
  \time #'((3 . 8) (2 . 8) (2 . 8) (3 . 8) (2 . 8) (2 . 8)
    (2 . 8) (2 . 8) (3 . 8) (2 . 8) (2 . 8))
  \set Timing.beamExceptions = #'()
  \set Timing.beatStructure = 3,2,2,3,2,2,2,2,3,2,2
  c8 c c d4 c8 c b c b a4 g fis8 e d c b' c d e4-^ fis8 g \break
  c,4. d4 c4 d4. c4 d c2 d4. e4-^ d4
  c4. d4 c4 d4. c4 d c2 d4. e4-^ d4 \break
}

drum = \new DrumStaff \drummode {
  \repeat volta 2 {
    bd4.^ \markup { Drums } sn4 bd \bar "|;"
    sn4. bd4 sn \bar "|;"
    bd sn bd4. sn4 bd
  }
}

\new Staff {
  \melody
  \drum
}
```



## High and low woodblock example

Two Woodblocks, entered with 'wbh' (high woodblock) and 'wbl' (low woodblock). The length of the bar line has been altered with an `\override` command, otherwise it would be too short. The positions of the two staff lines also have to be explicitly defined.

```
% These lines define the position of the woodblocks in the stave;
% if you like, you can change it or you can use special note heads
% for the woodblocks.
```

```
#(define mydrums '((hiwoodblock default #f 3)
                    (lowwoodblock default #f -2)))
```

```
woodstaff = {
  % This defines a staff with only two lines.
  % It also defines the positions of the two lines.
  \override Staff.StaffSymbol.line-positions = #'(-2 3)

  % This is necessary; if not entered,
  % the barline would be too short!
  \override Staff.BarLine.bar-extent = #'(-1.0 . 1.5)
  % small correction for the clef:
  \set DrumStaff.clefPosition = 0.5
}
```

```
\new DrumStaff {
  % with this you load your new drum style table
  \set DrumStaff.drumStyleTable = #(alist->hash-table mydrums)

  \woodstaff

  \drummode {
    \time 2/4
    wbh8 16 16 8-> 8 |
    wbl8 16 16-> ~ 16 16 r8 |
  }
}
```





## Plantilla per a combo de jazz

Això és una plantilla força avançada, per a un conjunt de jazz. Observeu que la notació de tots els instruments està a `\key c \major` (Do major). Això es refereix al to de concert; l'armadura es transporta automàticament si la música està dins d'una secció `\transpose`.

```
\header {
  title = "Song"
  subtitle = "(tune)"
  composer = "Me"
  meter = "moderato"
  piece = "Swing"
  tagline = \markup \column {
    "LilyPond example file by Amelie Zapf,"
    "Berlin 07/07/2003" }
}

% To make the example display properly in the documentation.
\paper {
  paper-width = 130\mm
  paper-height = 205\mm
}

% #(set-global-staff-size 16)

\include "english.ly"

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% Some macros %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

sl = { \override NoteHead.style = #'slash
       \hide Stem }
nsl = { \revert NoteHead.style
       \undo \hide Stem }
crOn = \override NoteHead.style = #'cross
crOff = \revert NoteHead.style

% Insert chord name style stuff here.

jazzChords = { }

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% Keys'n'things %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

global = { \time 4/4 }

Key = { \key c \major }

% ##### Horns #####

% ----- Trumpet -----
trpt = \transpose c d \relative c' {
  \Key
```

```

    c1 | c | c |
}
trpHarmony = \transpose c' d {
  \jazzChords
}
trumpet = {
  \global
  \clef treble
  \trpt
}

% ----- Alto Saxophone -----
alto = \transpose c a \relative c' {
  \Key
  c1 | c | c |
}
altoHarmony = \transpose c' a {
  \jazzChords
}
altoSax = {
  \global
  \clef treble
  \alto
}

% ----- Baritone Saxophone -----
bari = \transpose c a' \relative c {
  \Key
  c1 | c1 |
  \sl d4^"Solo" d d d \ns1 |
}
bariHarmony = \transpose c' a \chordmode {
  \jazzChords
  s1 | s |
  d2:maj e:m7 |
}
bariSax = {
  \global
  \clef treble
  \bari
}

% ----- Trombone -----
tbone = \relative c {
  \Key
  c1 | c | c |
}
tboneHarmony = \chordmode {
  \jazzChords
}
trombone = {
  \global

```

```

\clef bass
\tbone
}

% ##### Rhythm Section #####

% ----- Guitar -----
gtr = \relative c'' {
  \Key
  c1 |
  \sl b4 b b b \ns1 |
  c1 |
}
gtrHarmony = \chordmode {
  \jazzChords
  s1 | c2:min7+ d2:maj9 | s1 |
}
guitar = {
  \global
  \clef treble
  \gtr
}

%% ----- Piano -----
rhUpper = \relative c'' {
  \voiceOne
  \Key
  c1 | c | c |
}
rhLower = \relative c' {
  \voiceTwo
  \Key
  e1 | e | e |
}

lhUpper = \relative c' {
  \voiceOne
  \Key
  g1 | g | g |
}
lhLower = \relative c {
  \voiceTwo
  \Key
  c1 | c | c |
}

PianoRH = {
  \clef treble
  \global
  <<
  \new Voice = "one" \rhUpper
  \new Voice = "two" \rhLower

```

```

>>
}
PianoLH = {
  \clef bass
  \global
  <<
    \new Voice = "one" \lhUpper
    \new Voice = "two" \lhLower
  >>
}

piano = <<
  \new Staff = "upper" \PianoRH
  \new Staff = "lower" \PianoLH
>>

% ----- Bass Guitar -----
Bass = \relative c {
  \Key
  c1 | c | c |
}
bass = {
  \global
  \clef bass
  \Bass
}

% ----- Drums -----
up = \drummode {
  \voiceOne
  hh4 <hh sn> hh <hh sn> |
  hh4 <hh sn> hh <hh sn> |
  hh4 <hh sn> hh <hh sn> |
}
down = \drummode {
  \voiceTwo
  bd4 s bd s |
  bd4 s bd s |
  bd4 s bd s |
}

drumContents = {
  \global
  <<
    \new DrumVoice \up
    \new DrumVoice \down
  >>
}

%%%%%%%%%% It All Goes Together Here %%%%%%%%%%%

```

```

\book { % For the LilyPond documentation.
\score {
  <<
    \new StaffGroup = "horns" <<
      \new Staff = "trumpet" \with { instrumentName = "Trumpet" }
      \trumpet
      \new Staff = "altosax" \with { instrumentName = "Alto Sax" }
      \altoSax
      \new ChordNames = "barichords" \with { instrumentName = "Bari Sax" }
      \bariHarmony
      \new Staff = "barisax" \with { instrumentName = "Bari Sax" }
      \bariSax
      \new Staff = "trombone" \with { instrumentName = "Trombone" }
      \trombone
    >>

    \new StaffGroup = "rhythm" <<
      \new ChordNames = "chords" \with { instrumentName = "Guitar" }
      \gtrHarmony
      \new Staff = "guitar" \with { instrumentName = "Guitar" }
      \guitar
      \new PianoStaff = "piano" \with {
        instrumentName = "Piano"
        midiInstrument = "acoustic grand"
      } \piano
      \new Staff = "bass" \with { instrumentName = "Bass" }
      \bass
      \new DrumStaff \with { instrumentName = "Drums" }
      \drumContents
    >>
  >>

  \layout {
    \context {
      \Staff
      \RemoveEmptyStaves
    }
    \context {
      \Score
      \override BarNumber.padding = 3
      \override RehearsalMark.padding = 2
      skipBars = ##t
    }
  }
}
\midi { }
}

```

## Song (tune)

Me

moderato  
Swing

Trumpet

Alto Sax

Bari Sax

Trombone

Guitar

Piano

Bass

Drums

B<sup>Δ</sup> C<sup>#</sup>m<sup>7</sup>  
Solo

Cm<sup>Δ</sup> D<sup>Δ</sup>9

LilyPond example file by Amelie Zapf,  
Berlin 07/07/2003

## Símbols de cops de percussió

No hi ha de forma nativa els símbols gràfics per a instruments de percussió; no obstant, és possible incloure aquests símbols, ja sigui com un fitxer EPS extern o com a codi PostScript incrustat dins d'un element de marcatge, com es mostra en aquest exemple.

```
stick = \markup \with-dimensions #'(0.80 . 5.2) #'(0.85 . 5.2) {
  \postscript "
    0 6 translate
    0.8 -0.8 scale
    0 0 0 setrgbcolor
    [] 0 setdash
    1 setlinewidth
```

```

0 setlinejoin
0 setlinecap
gsave [1 0 0 1 0 0] concat
gsave [1 0 0 1 -3.5406095 -199.29342] concat
gsave
0 0 0 setrgbcolor
newpath
7.1434065 200.94354 moveto
7.2109628 200.90454 7.2785188 200.86554 7.3460747 200.82654 curveto
8.2056347 202.31535 9.0651946 203.80414 9.9247546 205.29295 curveto
9.8571989 205.33195 9.7896429 205.37095 9.7220864 205.40996 curveto
8.8625264 203.92115 8.0029664 202.43233 7.1434065 200.94354 curveto
closepath
eofill
grestore
gsave
0 0 0 setrgbcolor
newpath
4.9646672 203.10444 moveto
5.0036707 203.03688 5.0426744 202.96933 5.0816777 202.90176 curveto
6.5704792 203.76133 8.0592809 204.6209 9.5480824 205.48045 curveto
9.5090791 205.54801 9.4700754 205.61556 9.4310717 205.68311 curveto
7.94227 204.82356 6.4534687 203.96399 4.9646672 203.10444 curveto
closepath
eofill
grestore
gsave
<<
/ShadingType 3
/ColorSpace /DeviceRGB
/Coords [113.13708 207.87465 0 113.13708 207.87465 16.162441]
/Extend [true true]
/Domain [0 1]
/Function <<
/FunctionType 3
/Functions
[
<<
/FunctionType 2
/Domain [0 1]
/C0 [1 1 1]
/C1 [0.72941178 0.72941178 0.72941178]
/N 1
>>
]
/Domain [0 1]
/Bounds [ ]
/Encode [ 0 1 ]
>>
>>
newpath
7.6422017 200.76488 moveto

```

```

7.6505696 201.02554 7.3905363 201.24867 7.1341335 201.20075 curveto
6.8759501 201.16916 6.6949602 200.87978 6.7801462 200.63381 curveto
6.8480773 200.39155 7.1438307 200.25377 7.3728389 200.35861 curveto
7.5332399 200.42458 7.6444521 200.59122 7.6422017 200.76488 curveto
closepath
clip
gsave [
  0.052859054 0.063089841 -0.020912282 0.017521108 5.7334261 189.76443
] concat
shfill
grestore
grestore
0 0 0 setrgbcolor
[] 0 setdash
0.027282091 setlinewidth
0 setlinejoin
0 setlinecap
newpath
7.6422017 200.76488 moveto
7.6505696 201.02554 7.3905363 201.24867 7.1341335 201.20075 curveto
6.8759501 201.16916 6.6949602 200.87978 6.7801462 200.63381 curveto
6.8480773 200.39155 7.1438307 200.25377 7.3728389 200.35861 curveto
7.5332399 200.42458 7.6444521 200.59122 7.6422017 200.76488 curveto
closepath
stroke
gsave
<<
/ShadingType 3
/ColorSpace /DeviceRGB
/Coords [113.13708 207.87465 0 113.13708 207.87465 16.162441]
/Extend [true true]
/Domain [0 1]
/Function <<
/FunctionType 3
/Functions
[
<<
/FunctionType 2
/Domain [0 1]
/C0 [1 1 1]
/C1 [0.72941178 0.72941178 0.72941178]
/N 1
>>
]
/Domain [0 1]
/Bounds [ ]
/Encode [ 0 1 ]
>>
>>
newpath
5.2721217 202.83181 moveto
5.2804896 203.09247 5.0204563 203.3156 4.7640539 203.26768 curveto

```

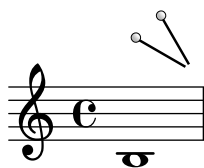


```

4.5058701 203.23609 4.3248803 202.94671 4.4100662 202.70074 curveto
4.4779975 202.45848 4.7737511 202.3207 5.0027593 202.42554 curveto
5.1631598 202.49149 5.2743721 202.65813 5.2721217 202.83181 curveto
closepath
clip
gsave [
  0.052859054 0.063089841 -0.020912282 0.017521108 3.363346 191.83136
] concat
shfill
grestore
grestore
0 0 0 setrgbcolor
[] 0 setdash
0.027282091 setlinewidth
0 setlinejoin
0 setlinecap
newpath
5.2721217 202.83181 moveto
5.2804896 203.09247 5.0204563 203.3156 4.7640539 203.26768 curveto
4.5058701 203.23609 4.3248803 202.94671 4.4100662 202.70074 curveto
4.4779975 202.45848 4.7737511 202.3207 5.0027593 202.42554 curveto
5.1631598 202.49149 5.2743721 202.65813 5.2721217 202.83181 curveto
closepath
stroke
grestore
grestore
"
}

\score {
  b1^\stick
}

```



## Percussion example

A short example taken from Stravinsky's *L'histoire du Soldat*.

```

#(define mydrums '((bassdrum  default #f  4)
                    (snare      default #f -4)
                    (tambourine default #f  0)))

```

```

U = \stemUp
D = \stemDown

```

```

global = {
  \time 3/8 s4.
  \time 2/4 s2*2
  \time 3/8 s4.
}

```

```

\time 2/4 s2
}

drumsA = {
  \context DrumVoice <<
    \global
    \drummode {
      \autoBeamOff
      \D sn8 \U tamb s |
      sn4 \D sn4 |
      \U tamb8 \D sn \U sn16 \D sn \U sn8 |
      \D sn8 \U tamb s |
      \U sn4 s8 \U tamb
    }
  >>
}

drumsB = \drummode {
  s4 bd8 s2*2 s4 bd8 s4 bd8 s
}

\layout {
  indent = 40\mm
  \context {
    \DrumStaff
    drumStyleTable = #(alist->hash-table mydrums)
  }
}

\score {
  \new StaffGroup <<
    \new DrumStaff \with {
      instrumentName = \markup \center-column {
        "Tambourine"
        "et"
        "caisse claire s. timbre" }
    } \drumsA
    \new DrumStaff \with {
      instrumentName = "Grosse Caisse"
    } \drumsB
  >>
}

```

Tambourine  
et  
caisse claire s. timbre

Grosse Caisse

## Impressió de música que tingui compassos en cada pentagrama

En el següent fragment de codi, dues parts diferents tenen un compàs completament diferent i malgrat això es mantenen sincronitzades. Les barres de compàs ja no es poden imprimir en el nivell de `Score`; per permetre barres de compàs independents en cada part es tralladen els gravadores `Default_barline_engraver` i `Timing_translator` des del context de partitura `Score` fins el context de pentagrama `Staff`.

Si calen nombres de compàs, el gravador de nombres de compàs `Bar_number_engraver` també s'ha de traslladar, ja que descansa en propietat fixades pel `Timing_translator`; es pot usar un bloc `\with` per afegir nombres de compàs al pentagrama apropiat.

```
global = {
  \time 3/4 s2.*3 \break
  s2.*3
}

\layout {
  \context {
    \Score
    \remove "Timing_translator"
    \remove "Bar_number_engraver"
    \override SpacingSpanner.uniform-stretching = ##t
    \override SpacingSpanner.strict-note-spacing = ##t
    proportionalNotationDuration = #1/64
  }
  \context {
    \Staff
    \consists "Timing_translator"
  }
  \context {
    \Voice
    \remove "Forbid_line_break_engraver"
    tupletFullLength = ##t
  }
}

Bassklarinette = \new Staff \with {
  \consists "Bar_number_engraver"
  barNumberVisibility = #(every-nth-bar-number-visible 2)
  \override BarNumber.break-visibility = #end-of-line-invisible
} <<
\global
{
  \clef treble
  \time 3/8 d''4. |
  \time 3/4 r8 des''2( c''8) |
  \time 7/8 r4. ees''2 ~ |
  \time 2/4 \tupletUp \tuplet 3/2 { ees''4 r4 d''4 ~ } |
  \time 3/8 \tupletUp \tuplet 4/3 { d''4 r4 } |
  \time 2/4 e''2 |
  \time 3/8 es''4. |
  \time 3/4 r8 d''2 r8 |
}
```

&gt;&gt;

```
Perkussion = \new StaffGroup <<
```

```
  \new Staff <<
```

```
    \global
```

```
    {
```

```
      \clef percussion
```

```
      \time 3/4 r4 c'2 ~ |
```

```
      c'2. |
```

```
      R2. |
```

```
      r2 g'4 ~ |
```

```
      g'2. ~ |
```

```
      g'2. |
```

```
    }
```

&gt;&gt;

```
  \new Staff <<
```

```
    \global {
```

```
      \clef percussion
```

```
      \time 3/4 R2. |
```

```
      g'2. ~ |
```

```
      g'2. |
```

```
      r4 g'2 ~ |
```

```
      g'2 r4 |
```

```
      g'2. |
```

```
    }
```

&gt;&gt;

&gt;&gt;

```
\score {
```

```
  <<
```

```
    \Bassklarinette
```

```
    \Perkussion
```

&gt;&gt;

```
}
```

The image shows a musical score for two parts: Bass Clarinet and Percussion. The Bass Clarinet part is written on a single staff with a treble clef and a 3/4 time signature. It features a melody with slurs and fingerings (2, 4, 3). The Percussion part is written on two staves with a common time signature (C) and a 3/4 time signature. It features a rhythmic pattern with slurs and rests.

(4)

3 4 6

8

## Tam-tam example

A tam-tam example, entered with 'tt'.

```
#(define mydrums '((tamtam default #f 0)))
```

```
\new DrumStaff \with { instrumentName = #"Tamtam" }
```

```
\drummode {
```

```
  \set DrumStaff.drumStyleTable = #(alist->hash-table mydrums)
```

```
  \override Staff.StaffSymbol.line-positions = #'( 0 )
```

```
  \override Staff.BarLine.bar-extent = #'(-1.5 . 1.5)
```

```
  tt 1 \pp \laissezVibrer
}
```

Tamtam *pp*

## Tambourine example

A tambourine example, entered with 'tamb'.

```
#(define mydrums '((tambourine default #f 0)))
```

```
\new DrumStaff \with { instrumentName = #"Tambourine" }
```

```
\drummode {
```

```
  \set DrumStaff.drumStyleTable = #(alist->hash-table mydrums)
```

```
  \override Staff.StaffSymbol.line-positions = #'( 0 )
```

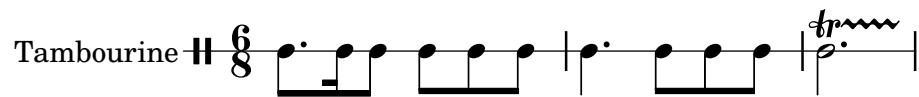
```
  \override Staff.BarLine.bar-extent = #'(-1.5 . 1.5)
```

```
  \time 6/8
```

```

tamb8. 16 8 8 8 8 |
tamb4. 8 8 8 |
% The trick with the scaled duration and the shorter rest
% is neccessary for the correct ending of the trill-span!
tamb2.*5/6 \startTrillSpan s8 \stopTrillSpan |
}

```



## 13 Fretted string instruments

See also Secció “Fretted string instruments” in *Referencia de la Notación*.

### Afegir digitacions a la partitura

Es poden escriure ordre de digitació usant una sintaxi molt senzilla.

```
\relative c' ' {
  c4-1 d-2 f-4 e-3
}
```

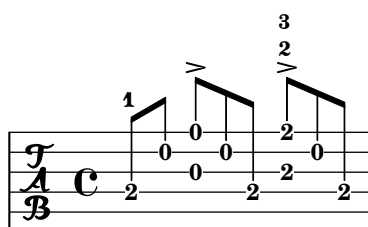


### Afegir digitacions a les tabulatures

Per afegir digitacions a les tabulatures, utilitzeu una combinació de `\markup` i `\finger`.

```
one = \markup { \finger 1 }
two = \markup { \finger 2 }
threeTwo = \markup {
  \override #'(baseline-skip . 2)
  \column {
    \finger 3
    \finger 2
  }
}

\score {
  \new TabStaff {
    \tabFullNotation
    \stemUp
    e8\4^\one b\2 <g\3 e'\1>~>[ b\2 e\4]
    <a\3 fis'\1>~>^\threeTwo[ b\2 e\4]
  }
}
```



### Adding markups in a tablature

By default, markups are not displayed in a tablature.

To make them appear, revert the stencil property of the TextScript grob in the TabStaff context.

```
high = { r4 r8 <g c'> q r8 r4 }
low = { c4 r4 c8 r8 g,8 b, }
pulse = { s8^"1" s^"&" s^"2" s^"&" s^"3" s^"&" s^"4" s^"&" }
```

```

\score {
  \new TabStaff {
    \repeat unfold 2 << \high \\\ \low \\\ \pulse >>
  }
  \layout {
    \context {
      \TabStaff
      \clef moderntab
      \revert TextScript.stencil
      \override TextScript.font-series = #'bold
      \override TextScript.font-size = #-2
      \override TextScript.color = #red
    }
    \context {
      \Score
      proportionalNotationDuration = #1/8
    }
  }
}

```

	1 & 2 & 3 & 4 &					1 & 2 & 3 & 4 &			
<b>T</b>		1-1				1-1			
<b>A</b>		0-0				0-0			
<b>B</b>	3		3	2	3	3		2	3

## Permetre que les digitacions s'imprimeixen del pentagrama

Les xifres de digitació orientades verticalment es col·loquen de forma predeterminada fora del pentagrama. Malgrat això, aquest comportament es pot desactivar. Nota: s'ha d'usar una construcció d'acord <>, tot i que sigui una sola nota.

```

\relative c' {
  <c-1 e-2 g-3 b-5>2
  \override Fingering.staff-padding = #'()
  <c-1 e-2 g-3 b-5>4 g'-0
  a8[-1 b]-2 g-0 r
  \override Fingering.add-stem-support = ##f
  a[-1 b]-2 g-0 r
  \override Fingering.add-stem-support = ##t
  a[-1 b]-2 g-0 r
  \override Fingering.add-stem-support = #only-if-beamed
  a[-1 b]-2 g-0 r
}

```



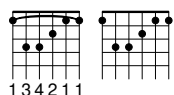
## Automatic fretboards barré

When automatic fretboards are used, barré indicators are drawn whenever one finger is responsible for multiple strings.



If no finger indications are given in the chord from which the automatic fretboard is created, no barré indicators are included, because there is no way to identify where barrés should be placed.

```
\new FretBoards {
  <f,-1 c-3 f-4 a-2 c'-1 f'-1>1
  <f, c f a c' f'>1
}
```

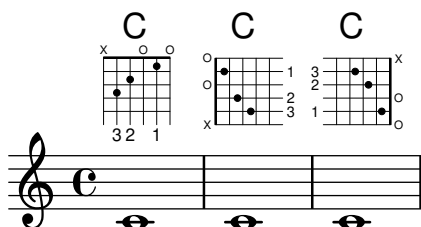


## Modificar l'orientació dels trastos

Els diagrames de posicions d'acords es poden orientar de tres formes. De manera predeterminada, s'alinea la corda o trast superior en les diferents alineacions.

```
\include "predefined-guitar-fretboards.ly"
```

```
<<
\chords {
  c1
  c1
  c1
}
\new FretBoards \chordmode {
  c1
  \override FretBoard.fret-diagram-details.orientation =
    #'landscape
  c1
  \override FretBoard.fret-diagram-details.orientation =
    #'opposing-landscape
  c1
}
\new Voice {
  c'1
  c'1
  c'
}
>>
```



## Chord changes for fretboards

Fretboards can be set to display only when the chord changes, or at the beginning of a new line.

```
\include "predefined-guitar-fretboards.ly"
```

```
myChords = \chordmode {
```

```

c1 c1 \break
\set chordChanges = ##t
c1 c1 \break
c1 c1
}

<<
\new ChordNames { \myChords }
\new FretBoards { \myChords }
\new Staff { \myChords }
>>

```

The image displays three musical staves, each representing a C major chord in treble clef. Above each staff is a guitar fretboard diagram for the C major chord (C-E-G). The fretboard diagrams show fingerings: 3 on the first string (E), 2 on the second string (E), and 1 on the third string (G). The first staff has no additional markings. The second staff has a '3' above the first measure, indicating a triplet. The third staff has a '5' above the first measure, indicating a fifth. Each staff is divided into two measures by a bar line.

## Glissando d'acords en tabulatura

Els lliscaments per a acords s'indiquen per omissió tant al context `Staff` com a `TabStaff`. Els nombres de corda són necessaris per a `TabStaff` perquè els càlculs de corda automàtics són diferents per als acords i per a les notes soltes.

```

myMusic = \relative c' {
  <c e g>1 \glissando <f a c>
  <cis, eis gis>1 \glissando <f a c>
  <cis eis gis>1 \glissando <f a c\3>
}

\score {
  <<
    \new Staff {
      \clef "treble_8"
      \omit StringNumber
      \myMusic
    }
    \new TabStaff \myMusic
  >>
}

```

```

>>
}

\score {
  <<
    \new Staff {
      \clef "treble_8"
      \omit StringNumber
      \myMusic
    }
    \new TabStaff \with { \override Glissando.style = #'none } {
      \myMusic
    }
  >>
}

```

The image displays two musical staves, one for a treble clef and one for a bass clef, both with a C-clef (8) and a key signature of three sharps (F#, C#, G#). The top staff shows a sequence of chords with stretched fingering indicated by numbers 1-5 and 1-10. The bottom staff shows a similar sequence of chords with stretched fingering indicated by numbers 1-5 and 1-10.

## Chords with stretched fingering for FretBoards and TabVoice

Sometimes chords with a stretched fingering are required. If not otherwise specified the context property `maximumFretStretch` is set to value 4, though, resulting in a warning about “No string for pitch ...”, and the note is omitted. You may set `maximumFretStretch` to an appropriate value or explicitly assign string numbers to all notes of a chord to fix that.

```

% The code below prints two warnings for the second chord,
% which may be omitted by uncommenting the following line.
%
% #(for-each (lambda (x) (ly:expect-warning "No string for pitch")) (iota 2))

```

```

mus = {
  <c' bes'>
  <c'\2 bes'>
  \set maximumFretStretch = 5
  <c' bes'>
  <c'\2 bes'\1>
}

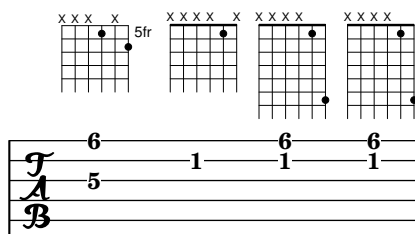
```

```

<<
  \new FretBoards \mus

```

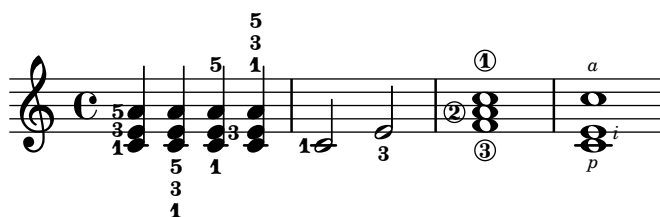
```
\new TabVoice \mus
>>
```



## Controlar la col·locació de les digitacions d'acords

Es pot controlar amb precisió la col·locació dels números de digitació. Perquè es tingui en compte l'orientació de les digitacions, es pot utilitzar una construcció d'acord <> tot i que siguin una sola nota.

```
\relative c' {
  \set fingeringOrientations = #'(left)
  <c-1 e-3 a-5>4
  \set fingeringOrientations = #'(down)
  <c-1 e-3 a-5>4
  \set fingeringOrientations = #'(down right up)
  <c-1 e-3 a-5>4
  \set fingeringOrientations = #'(up)
  <c-1 e-3 a-5>4
  \set fingeringOrientations = #'(left)
  <c-1>2
  \set fingeringOrientations = #'(down)
  <e-3>2
  \set stringNumberOrientations = #'(up left down)
  <f\3 a\2 c\1>1
  \set strokeFingerOrientations = #'(down right up)
  <c\rightHandFinger 1 e\rightHandFinger 2 c'\rightHandFinger 4 >
}
```



## Personalitzar els diagrames de posicions

Es poden establir les propietats dels diagrames de posicions d'acords per mitjà de 'fret-diagram-details. Per als diagrames de posicions de FretBoard, s'apliquen els overrides (sobrescriptures) a l'objecte FretBoards.FretBoard. Com Voice, FretBoards és un context del nivell inferior, i per tant es pot ometre el seu nom a la sobrescriptura de propietats.

```
\include "predefined-guitar-fretboards.ly"
```

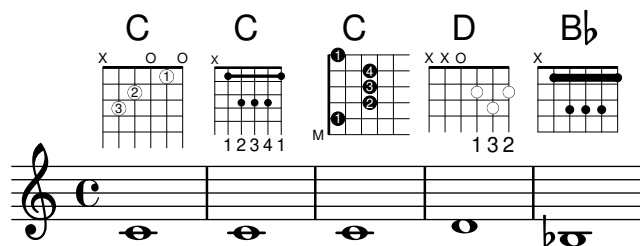
```
\storePredefinedDiagram #default-fret-table \chordmode { c' }
  #guitar-tuning
  "x;1-1-(;3-2;3-3;3-4;1-1-);"
```

```

% shorthand
oo = #(define-music-function
  (grob-path value)
  (list? scheme?)
  #{ \once \override $grob-path = #value #})

<<
\new ChordNames {
  \chordmode { c1 | c | c | d | bes }
}
\new FretBoards {
  % Set global properties of fret diagram
  \override FretBoards.FretBoard.size = 1.2
  \override FretBoard.fret-diagram-details.finger-code = #'in-dot
  \override FretBoard.fret-diagram-details.dot-color = #'white
  \chordmode {
    c
    \oo FretBoard.size #1.0
    \oo FretBoard.fret-diagram-details.barre-type #'straight
    \oo FretBoard.fret-diagram-details.dot-color #'black
    \oo FretBoard.fret-diagram-details.finger-code #'below-string
    c'
    \oo FretBoard.fret-diagram-details.barre-type #'none
    \oo FretBoard.fret-diagram-details.number-type #'arabic
    \oo FretBoard.fret-diagram-details.orientation #'landscape
    \oo FretBoard.fret-diagram-details.mute-string "M"
    \oo FretBoard.fret-diagram-details.label-dir #LEFT
    \oo FretBoard.fret-diagram-details.dot-color #'black
    c'
    \oo FretBoard.fret-diagram-details.finger-code #'below-string
    \oo FretBoard.fret-diagram-details.dot-radius #0.35
    \oo FretBoard.fret-diagram-details.dot-position #0.5
    \oo FretBoard.fret-diagram-details.fret-count #3
    d
    \oo FretBoard.fret-diagram-details.barre-type #'straight
    \oo FretBoard.fret-diagram-details.finger-code #'none
    \oo FretBoard.fret-diagram-details.dot-radius #0.25
    \oo FretBoard.fret-diagram-details.dot-color #'black
    \oo FretBoard.fret-diagram-details.string-overhang #0.
    \oo FretBoard.fret-diagram-details.barre-thickness #2.
    bes
  }
}
\new Voice {
  c'1 | c' | c' | d' | bes
}
>>

```



## Personalitzar diagrames de posicions de marcatge

Es poden establir les propietats dels diagrames de posicions a través de 'fret-diagram-details'. Per als diagrames de posicions de marcatge, es poden aplicar overrides (sobreescriptures) a l'objecte `Voice.TextScript` o directament a l'element de marcatge.

```
<<
```

```
\chords { c1 | c | c | d }

\new Voice = "mel" {
  \textLengthOn
  % Set global properties of fret diagram
  \override TextScript.size = 1.2
  \override TextScript.fret-diagram-details.finger-code = #'in-dot
  \override TextScript.fret-diagram-details.dot-color = #'white

  %% C major for guitar, no barre, using defaults
  % terse style
  c'1^\markup { \fret-diagram-terse "x;3-3;2-2;o;1-1;o;" }

  %% C major for guitar, barred on third fret
  % verbose style
  % size 1.0
  % roman fret label, finger labels below string, straight barre
  c'1^\markup {
    % standard size
    \override #'(size . 1.0) {
      \override #'(fret-diagram-details . (
        (number-type . roman-lower)
        (finger-code . in-dot)
        (barre-type . straight))) {
        \fret-diagram-verbose #'((mute 6)
          (place-fret 5 3 1)
          (place-fret 4 5 2)
          (place-fret 3 5 3)
          (place-fret 2 5 4)
          (place-fret 1 3 1)
          (barre 5 1 3))
      }
    }
  }

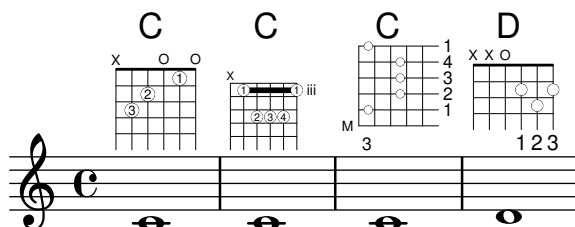
  %% C major for guitar, barred on third fret
  % verbose style
  % landscape orientation, arabic numbers, M for mute string
```

```

% no barre, fret label down or left, small mute label font
c'1~\markup {
  \override #'(fret-diagram-details . (
    (finger-code . below-string)
    (number-type . arabic)
    (label-dir . -1)
    (mute-string . "M")
    (orientation . landscape)
    (barre-type . none)
    (xo-font-magnification . 0.4)
    (xo-padding . 0.3))) {
    \fret-diagram-verbose #'((mute 6)
      (place-fret 5 3 1)
      (place-fret 4 5 2)
      (place-fret 3 5 3)
      (place-fret 2 5 4)
      (place-fret 1 3 1)
      (barre 5 1 3))
  }
}

%% simple D chord
% terse style
% larger dots, centered dots, fewer frets
% label below string
d'1~\markup {
  \override #'(fret-diagram-details . (
    (finger-code . below-string)
    (dot-radius . 0.35)
    (dot-position . 0.5)
    (fret-count . 3))) {
    \fret-diagram-terse "x;x;o;2-1;3-2;2-3;"
  }
}
}
}
>>

```



## Digitacions - indicació del nombre de corda i digitacions de mà dreta

En aquest exemple es combinen les digitacions de la mà esquerra, indicacions del nombre de corda i digitacions de la mà dreta.

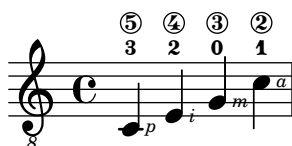
```
#(define RH rightHandFinger)
```

```
\relative c {
```

```

\clef "treble_8"
<c-3\5\RH 1 >4
<e-2\4\RH 2 >4
<g-0\3\RH 3 >4
<c-1\2\RH 4 >4
}

```



## Notació del flamenco

Per a la guitarra flamenca s'utilitzen certs elements de notació especials:

- un símbol per indicar un cop sobre la caixa de la guitarra amb l'artell del dit anular
- una fletxa per indicar la direcció dels rasguejos
- diferents lletres per a les digitacions ("p": polze, "i": índex "m": mig, "a": anular y "x": petit)
- Rasguejos de 3 i quatre dits: cap amunt amb tots els dits i acabant amb amunt i avall amb l'índex
- ventalls: rasguejos en sèrie amb el polze, cap avall i el petit i l'índex cap amunt (hi ha també un ventall 2 en el qual els dits mig i anular s'usen enlloc del petit)
- alça pua: pulsacions ràpides amb el polze

Gairebé totes les figures utilitzen fletxes combinades amb digitacions; amb els ventalls i els rasguejos, les notes s'imprimeixen amb cap sol al primer acord.

Aquest fragment de codi conté codi de tipus capçalera que es pot copiar com `flamenco.ly` i incloure's en els documents font.

```

%% Cut here ----- Start of `flamenco.ly`.

```

```

% Text indicators.

```

```

abanico = ^\markup \small { \italic Abanico }
rasgueado = ^\markup \small { \italic Ras. }
alzapua = ^\markup \small { \italic Alzapua }

```

```

% Finger stroke symbols.

```

```

strokeUp = \markup {
  \combine
    \override #'(thickness . 1.3) \draw-line #'(0 . 2)
    \raise #2 \arrow-head #Y #UP ##f }
strokeDown = \markup {
  \combine
    \arrow-head #Y #DOWN ##f
    \override #'(thickness . 1.3) \draw-line #'(0 . 2) }

```

```

% Golpe symbol.

```

```

golpe = \markup {
  \filled-box #'(0 . 1) #'(0 . 1) #0
  \hspace #-1.6
  \with-color #white
}

```



```

\filled-box #'(0.15 . 0.85) #'(0.15 . 0.85) #0
}

% Strokes, fingers, and golpe command.
RHp = \rightHandFinger #1
RHi = \rightHandFinger #2
RHm = \rightHandFinger #3
RHa = \rightHandFinger #4
RHx = \rightHandFinger #5
RHu = \rightHandFinger \strokeUp
RHd = \rightHandFinger \strokeDown
RHg = \rightHandFinger \golpe

% Various shorthands.
tupletOff = {
  \once \omit TupletNumber
  \once \omit TupletBracket
}

tupletsOff = {
  \omit TupletNumber
  \override TupletBracket.bracket-visibility = #'if-no-beam
}

tupletsOn = {
  \override TupletBracket.bracket-visibility = #'default
  \undo \omit TupletNumber
}

headsOff = {
  \hide TabNoteHead
  \hide NoteHead
  \override NoteHead.no-ledgers = ##t
}

headsOn = {
  \override TabNoteHead.transparent = ##f
  \override NoteHead.transparent = ##f
  \override NoteHead.no-ledgers = ##f
}

%%%%%%%% Cut here ----- End of `flamenco.ly`.

part = \relative c' {
  \set strokeFingerOrientations = #'(up)
  \key a\major

  <a, e' a cis e\RHu\RHi>8
  <a e' a cis e\RHd\RHi>8
  r4
  r2^\markup\golpe |

```

```

<a e' a cis e\RHu\RHl>8
  <a e' a cis e\RHd\RHl>8
  <a e' a cis e\RHu\RHl\RHg>8
  <a e' a cis e\RHd\RHl>8
  r2 |
<a e' a cis e\RHu\RHl>16\rasgueado
  \headsOff
  <a e' a cis e\RHu\RHm>
  <a e' a cis e\RHu\RHl>
  <a e' a cis e\RHd\RHl>~
  \headsOn
  <a e' a cis e>2
  r4 |
\tupletOff
  \tuplet 5/4 {
    <a e' a cis e\RHu\RHx>16\rasgueado
    \headsOff
    <a e' a cis e\RHu\RHl>
    <a e' a cis e\RHu\RHm>
    <a e' a cis e\RHu\RHl>
    <a e' a cis e\RHd\RHl>~
    \headsOn
  }
  <a e' a cis e>2
  r4 |
<>\abanico
  \tupletsOff
  \repeat unfold 4 {
    \tuplet 3/2 {
      <a e' a cis e\RHd\RHp>8
      \headsOff
      <a e' a cis e\RHu\RHx>
      <a e' a cis e\RHu\RHl>
      \headsOn
    }
  }
  \tupletsOff |
<>\alzapua
\override Beam.positions = #'(2 . 2)
\repeat unfold 4 {
  \tuplet 3/2 {
    a8\RHp
    <e' a\RHu\RHg>
    <e a\RHd>
  }
}
\tupletsOn |
<a, e' a\RHu\RHm>1 \bar " | ."
}

\score {
  \new StaffGroup <<

```

```

\context Staff = "part" {
  \clef "G_8"
  \part
}
\context TabStaff {
  \part
}
}
>>
\layout {
  ragged-right = ##t
}
}

```

The image displays two systems of musical notation for a fretted string instrument. Each system consists of a musical staff with a treble clef and a key signature of two sharps (F# and C#), and a corresponding tablature staff below it. The tablature staff has four lines, labeled 1, 2, 3, and 4 from top to bottom, representing the strings. The first system contains four measures. The first measure has a whole note chord with frets 0, 2, 2, 0. The second measure has a whole note chord with frets 0, 2, 2, 0. The third measure has a whole note chord with frets 0, 2, 2, 0. The fourth measure has a whole note chord with frets 0, 2, 2, 0. The second system also contains four measures. The first measure has a whole note chord with frets 0, 2, 2, 0. The second measure has a whole note chord with frets 0, 2, 2, 0. The third measure has a whole note chord with frets 0, 2, 2, 0. The fourth measure has a whole note chord with frets 0, 2, 2, 0. The score includes various musical notations such as notes, rests, and dynamic markings like *p* (piano) and *m* (mezzo-forte). The tablature staff shows fret numbers for strings 1-4.

## Diagrames de posicions d'acord, explicats i desenvolupats

Aquest fragment de codi presenta moltes possibilitat per obtenir diagrames de posicions d'acord i com ajustar-los.

```

<<
\chords {
  a1 a \bar "||" \break
  \repeat unfold 3 {
    c c c d d \bar "||" \break
  }
}

\new Voice {
  % Set global properties of fret diagram
  \override TextScript.size = 1.2
  \override TextScript.fret-diagram-details
    .finger-code = #'below-string
}

```

```

\override TextScript.fret-diagram-details
      .dot-color = #'black

% 1
%
% A chord for ukulele.
a'1^\markup
  \override #'(fret-diagram-details
    . ((string-count . 4)
      (dot-color . white)
      (finger-code . in-dot)))
  \fret-diagram "4-2-2;3-1-1;2-o;1-o;"

% 2
%
% A chord for ukulele, with formatting defined in definition
% string: 1.2 * size, 4 strings, 4 frets, fingerings below,
% string dot radius .35 of fret spacing, dot position 0.55 of
% fret spacing.
a'1^\markup
  \override #'(fret-diagram-details
    . ((dot-color . white)
      (open-string . "o")))
  \fret-diagram
    "s:1.2;w:4;h:3;f:2;d:0.35;p:0.55;4-2-2;3-1-1;2-o;1-o;"

%%
%% These chords will be in normal orientation
%%

% 3
%
% C major for guitar, barred on third fret: verbose style,
% roman fret label, finger labels below string, straight barre.
c'1^\markup
  % 110% of default size
  \override #'(size . 1.1)
  \override #'(fret-diagram-details
    . ((number-type . roman-lower)
      (finger-code . below-string)
      (barre-type . straight)))
  \fret-diagram-verbose #'((mute 6)
    (place-fret 5 3 1)
    (place-fret 4 5 2)
    (place-fret 3 5 3)
    (place-fret 2 5 4)
    (place-fret 1 3 1)
    (barre 5 1 3))

% 4

```

```

%
% C major for guitar, barred on third fret: double barre used
% to test barre function, verbose style.
c'1~\markup
  % 110% of default size
  \override #'(size . 1.1)
  \override #'(fret-diagram-details
    . ((number-type . arabic)
      (dot-label-font-mag . 0.9)
      (finger-code . in-dot)
      (fret-label-font-mag . 0.6)
      (fret-label-vertical-offset . 0)
      (label-dir . -1)
      (mute-string . "M")
      (xo-font-magnification . 0.4)
      (xo-padding . 0.3)))
  \fret-diagram-verbose #'((mute 6)
    (place-fret 5 3 1)
    (place-fret 4 5 2)
    (place-fret 3 5 3)
    (place-fret 2 5 4)
    (place-fret 1 3 1)
    (barre 4 2 5)
    (barre 5 1 3))

% 5
%
% C major for guitar, with capo on third fret: verbose style.
c'1~\markup
  % 110% of default size
  \override #'(size . 1.1)
  \override #'(fret-diagram-details
    . ((number-type . roman-upper)
      (dot-label-font-mag . 0.9)
      (finger-code . none)
      (fret-label-vertical-offset . 0.5)
      (xo-font-magnification . 0.4)
      (xo-padding . 0.3)))
  \fret-diagram-verbose #'((mute 6)
    (capo 3)
    (open 5)
    (place-fret 4 5 1)
    (place-fret 3 5 2)
    (place-fret 2 5 3)
    (open 1))

% 6
%
% Simple D chord.
d'1~\markup
  \override #'(fret-diagram-details
    . ((finger-code . below-string)

```

```

        (dot-radius . 0.35)
        (string-thickness-factor . 0.3)
        (dot-position . 0.5)
        (fret-count . 3)))
\fret-diagram-terse "x;x;o;2-1;3-2;2-3;"

% 7
%
% Simple D chord, large top fret thickness.
d'1^\markup
  \override #'(fret-diagram-details
    . ((finger-code . below-string)
      (dot-radius . 0.35)
      (dot-position . 0.5)
      (top-fret-thickness . 7)
      (fret-count . 3)))
\fret-diagram-terse "x;x;o;2-1;3-2;2-3;"

%%
%% These chords will be in landscape orientation
%%
\override TextScript.fret-diagram-details
  .orientation = #'landscape

% 8
%
% C major for guitar, barred on third fret: verbose style,
% roman fret label, finger labels below string, straight
% barre.
c'1^\markup
  % 110% of default size
  \override #'(size . 1.1)
  \override #'(fret-diagram-details
    . ((number-type . roman-lower)
      (finger-code . below-string)
      (barre-type . straight)))
\fret-diagram-verbose #'(mute 6)
      (place-fret 5 3 1)
      (place-fret 4 5 2)
      (place-fret 3 5 3)
      (place-fret 2 5 4)
      (place-fret 1 3 1)
      (barre 5 1 3))

% 9
%
% C major for guitar, barred on third fret: Double barre
% used to test barre function, verbose style.
c'1^\markup
  % 110% of default size

```

```

\override #'(size . 1.1)
\override #'(fret-diagram-details
  . ((number-type . arabic)
    (dot-label-font-mag . 0.9)
    (finger-code . in-dot)
    (fret-label-font-mag . 0.6)
    (fret-label-vertical-offset . 0)
    (label-dir . -1)
    (mute-string . "M")
    (xo-font-magnification . 0.4)
    (xo-padding . 0.3)))
\fret-diagram-verbose #'((mute 6)
  (place-fret 5 3 1)
  (place-fret 4 5 2)
  (place-fret 3 5 3)
  (place-fret 2 5 4)
  (place-fret 1 3 1)
  (barre 4 2 5)
  (barre 5 1 3))

% 10
%
% C major for guitar, with capo on third fret: verbose style.
c'1^\markup
% 110% of default size
\override #'(size . 1.1)
\override #'(fret-diagram-details
  . ((number-type . roman-upper)
    (dot-label-font-mag . 0.9)
    (finger-code . none)
    (fret-label-vertical-offset . 0.5)
    (xo-font-magnification . 0.4)
    (xo-padding . 0.3)))
\fret-diagram-verbose #'((mute 6)
  (capo 3)
  (open 5)
  (place-fret 4 5 1)
  (place-fret 3 5 2)
  (place-fret 2 5 3)
  (open 1))

% 11
%
% Simple D chord.
d'1^\markup
\override #'(fret-diagram-details
  . ((finger-code . below-string)
    (dot-radius . 0.35)
    (dot-position . 0.5)
    (fret-count . 3)))
\fret-diagram-terse "x;x;o;2-1;3-2;2-3;"

```

```

% 12
%
% Simple D chord, large top fret thickness.
d'1^\markup
  \override #'(fret-diagram-details
    . ((finger-code . below-string)
      (dot-radius . 0.35)
      (dot-position . 0.5)
      (top-fret-thickness . 7)
      (fret-count . 3)))
  \fret-diagram-terse "x;x;o;2-1;3-2;2-3;"

%%
%% These chords will be in opposing-landscape orientation.
%%
\override TextScript.fret-diagram-details
  .orientation = #'opposing-landscape

% 13
%
% C major for guitar, barred on third fret: verbose style,
% roman fret label, finger labels below string, straight
% barre.
c'1^\markup
  % 110% of default size
  \override #'(size . 1.1)
  \override #'(fret-diagram-details
    . ((number-type . roman-lower)
      (finger-code . below-string)
      (barre-type . straight)))
  \fret-diagram-verbose #'((mute 6)
    (place-fret 5 3 1)
    (place-fret 4 5 2)
    (place-fret 3 5 3)
    (place-fret 2 5 4)
    (place-fret 1 3 1)
    (barre 5 1 3))

% 14
%
% C major for guitar, barred on third fret: double barre
% used to test barre function, verbose style.
c'1^\markup
  % 110% of default size
  \override #'(size . 1.1)
  \override #'(fret-diagram-details
    . ((number-type . arabic)
      (dot-label-font-mag . 0.9)
      (finger-code . in-dot)
      (fret-label-font-mag . 0.6)

```



```

        (fret-label-vertical-offset . 0)
        (label-dir . -1)
        (mute-string . "M")
        (xo-font-magnification . 0.4)
        (xo-padding . 0.3)))
\ fret-diagram-verbose #'((mute 6)
                          (place-fret 5 3 1)
                          (place-fret 4 5 2)
                          (place-fret 3 5 3)
                          (place-fret 2 5 4)
                          (place-fret 1 3 1)
                          (barre 4 2 5)
                          (barre 5 1 3))

% 15
%
% C major for guitar, with capo on third fret: verbose style.
c'1~\markup
% 110% of default size
\override #'(size . 1.1)
\override #'(fret-diagram-details
              . ((number-type . roman-upper)
                (dot-label-font-mag . 0.9)
                (finger-code . none)
                (fret-label-vertical-offset . 0.5)
                (xo-font-magnification . 0.4)
                (xo-padding . 0.3)))
\ fret-diagram-verbose #'((mute 6)
                          (capo 3)
                          (open 5)
                          (place-fret 4 5 1)
                          (place-fret 3 5 2)
                          (place-fret 2 5 3)
                          (open 1))

% 16
%
% Simple D chord.
d'1~\markup
\override #'(fret-diagram-details
              . ((finger-code . below-string)
                (dot-radius . 0.35)
                (dot-position . 0.5)
                (fret-count . 3)))
\ fret-diagram-terse "x;x;o;2-1;3-2;2-3;"

% 17
%
% Simple D chord, large top fret thickness.
d'1~\markup
\override #'(fret-diagram-details
              . ((finger-code . below-string)

```

```

(dot-radius . 0.35)
(dot-position . 0.5)
(top-fret-thickness . 7)
(fret-count . 3)))
\fret-diagram-terse "x;x;o;2-1;3-2;2-3;"
}
>>

\paper {
  ragged-right = ##t
  system-system-spacing.basic-distance = 20
}

\layout {
  \context {
    \Score
    \override SpacingSpanner.spacing-increment = 3
  }
}

```

The image displays a musical score with three systems of staves, each containing five measures. The first system shows two fret diagrams for the chord A (first and second positions) above the first two measures. The second system shows fret diagrams for chords C and D (first and second positions) above the five measures. The third system shows fret diagrams for chords C and D (first and second positions) above the five measures. The score is written in treble clef with a key signature of one sharp (F#) and a common time signature (C). The fret diagrams are labeled with their respective chord names (A, C, D) and show the fingerings and positions for each chord. The fret diagrams are placed above the staves, and the notes are placed on the staves. The fret diagrams are labeled with their respective chord names (A, C, D) and show the fingerings and positions for each chord. The fret diagrams are placed above the staves, and the notes are placed on the staves.

## Taules alternatives de diagrames de posicions

Es poden crear taules alternatives de diagrames de posicions. S'utilitzarien per tenir diagrames alternatius per un acord donat.

Per usar una taula alternativa de diagrames de posicions, s'ha de crear primer la taula. Després s'afegeixen els diagrames a la taula.

La taula de diagrames de posicions que es crea pot estar buida o es pot copiar a partir d'una taula existent.

La taula a usar en la impressió dels diagrames predefinitos se selecciona per mitjà de la propietat `\predefinedDiagramTable`.

```
\include "predefined-guitar-fretboards.ly"

% Make a blank new fretboard table.
\define custom-fretboard-table-one
  (make-fretboard-table))

% Make a new fretboard table as a copy of `default-fret-table`.
\define custom-fretboard-table-two
  (make-fretboard-table default-fret-table))

% Add a chord to `custom-fretboard-table-one`.
\storePredefinedDiagram #custom-fretboard-table-one
  \chordmode {c}
  #guitar-tuning
  "3-(;3;5;5;5;3-);"

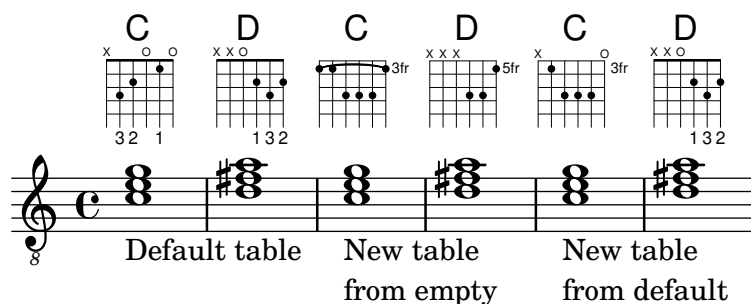
% Add a chord to `custom-fretboard-table-two`.
\storePredefinedDiagram #custom-fretboard-table-two
  \chordmode {c}
  #guitar-tuning
  "x;3;5;5;5;o;"

<<
\chords {
  c1 | d1 |
  c1 | d1 |
  c1 | d1 |
}
\new FretBoards {
  \chordmode {
    \set predefinedDiagramTable = #default-fret-table
    c1 | d1 |
    \set predefinedDiagramTable = #custom-fretboard-table-one
    c1 | d1 |
    \set predefinedDiagramTable = #custom-fretboard-table-two
    c1 | d1 |
  }
}
\new Staff {
  \clef "treble_8"
  <<
  \chordmode {
    c1 | d1 |
    c1 | d1 |
    c1 | d1 |
  }
}
```

```

    }
    {
        s1_\markup "Default table" | s1 |
        s1_\markup \column { "New table" "from empty" } | s1 |
        s1_\markup \column { "New table" "from default" } | s1 |
    }
    >>
}
>>

```



## Harmònics sobre cordes pisades en tabulatura

Harmònics sobre cordes trepitjades (harmònics artificials):

```

pinchedHarmonics = {
  \textSpannerDown
  \override TextSpanner.bound-details.left.text =
    \markup {\halign #-0.5 \teeny "PH" }
  \override TextSpanner.style = #'dashed-line
  \override TextSpanner.dash-period = 0.6
  \override TextSpanner.bound-details.right.attach-dir = 1
  \override TextSpanner.bound-details.right.text =
    \markup { \draw-line #'(0 . 1) }
  \override TextSpanner.bound-details.right.padding = -0.5
}

harmonics = {
  % artificial harmonics (AH)
  \textLengthOn
  <\parenthesize b b'\harmonic>4_\markup { \teeny "AH 16" }
  <\parenthesize g g'\harmonic>4_\markup { \teeny "AH 17" }
  <\parenthesize d' d''\harmonic>2_\markup { \teeny "AH 19" }

  % pinched harmonics (PH)
  \pinchedHarmonics
  <a'\harmonic>2\startTextSpan
  <d''\harmonic>4
  <e'\harmonic>4\stopTextSpan

  % tapped harmonics (TH)
  <\parenthesize g\4 g'\harmonic>4_\markup { \teeny "TH 17" }
  <\parenthesize a\4 a'\harmonic>4_\markup { \teeny "TH 19" }
  <\parenthesize c'\3 c''\harmonic>2_\markup { \teeny "TH 17" }

```

```

% touch harmonics (TCH)
a4( <e''\harmonic>2. )_\markup { \teeny "TCH" }
}

frettedStrings = {
  % artificial harmonics (AH)
  \harmonicByFret 4 g4\3
  \harmonicByFret 5 d4\4
  \harmonicByFret 7 g2\3

  % pinched harmonics (PH)
  \harmonicByFret 7 d2\4
  \harmonicByFret 5 d4\4
  \harmonicByFret 7 a4\5

  % tapped harmonics (TH)
  \harmonicByFret 5 d4\4
  \harmonicByFret 7 d4\4
  \harmonicByFret 5 g2\3

  % touch harmonics (TCH)
  a4 \harmonicByFret 9 g2.\3
}

\score {
  <<
    \new Staff
    \with { \omit StringNumber } {
      \new Voice {
        \clef "treble_8"
        \harmonics
      }
    }
    \new TabStaff {
      \new TabVoice {
        \frettedStrings
      }
    }
  >>
}

```

The image shows a musical score for a fretted string instrument. The top staff is a treble clef with a key signature of one sharp (F#) and a common time signature (C). It contains a sequence of notes with diamond-shaped markers above them, labeled AH 16, AH 17, AH 19, PH....., TH 17, TH 19, TH 17, and TCH. The bottom staff is a tablature staff with a treble clef and a key signature of one sharp (F#). It contains a sequence of fret numbers in parentheses: (4), (5), (7), (7), (5), (7), (5), (7), (5), 2, (9).

## Lligadures de guitarra

A diferència dels glissandos, els ‘slides’ o lligadures poden partir d’un punt imprecís del màstil fins un trast específic. Una bona forma de fer-ho es afegir una nota de mordent oculta abans de la nota real, com es mostra a l’exemple següent.

```
% Hide fret number: useful to draw slide into/from a casual point of
% the fretboard.
```

```
hideFretNumber = {
  \once \hide TabNoteHead
  \once \hide NoteHead
  \once \omit Stem
  \once \omit Flag
  \once \override NoteHead.no-ledgers = ##t
  \once \override Glissando.bound-details.left.padding = #0.3
}

music= \relative c' {
  \grace { \hideFretNumber d8\2 \glissando s2 } g2\2
  \grace { \hideFretNumber g8\2 \glissando s2 } d2 |

  \grace { \hideFretNumber c,8 \glissando s }
    f4\5\markup \tiny { Slide into }
  \grace { \hideFretNumber f8 \glissando s } a4\4
  \grace { \hideFretNumber e'8\3 \glissando s }
    b4\3\markup \tiny { Slide from }
  \grace { \hideFretNumber b'8 \glissando s2 } g4 |
}

\score {
  <<
    \new Staff {
      \clef "G_8"
      \music
    }
    \new TabStaff {
      \music
    }
  >>
}
```

## Ritmes rasguejats de guitarra

Per a la música de guitarra, és possible mostrar els ritmes de rasgueig, a més de les notes de la melodia, acords i diagrames de posicions.

```
\include "predefined-guitar-fretboards.ly"
```

```
<<
\new ChordNames \chordmode {
  c1 | f | g | c
}
\new FretBoards \chordmode {
  c1 | f | g | c
}
\new Voice \with {
  \consists "Pitch_squash_engraver"
} \relative c'' {
  \improvisationOn
  c4 c8 c c4 c8 c
  f4 f8 f f4 f8 f
  g4 g8 g g4 g8 g
  c4 c8 c c4 c8 c
}
\new Voice = "melody" \relative c'' {
  c2 e4 e4
  f2. r4
  g2. a4
  e4 c2.
}
\new Lyrics \lyricsto "melody" {
  This is my song.
  I like to sing.
}
>>
```

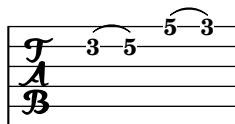
The image displays a musical score for guitar. The top staff shows four measures of strummed chords: C, F, G, and C. Each chord is accompanied by a fretboard diagram indicating fingerings: C (3, 2, 1), F (1, 3, 4, 2, 1, 1), G (2, 1, 3), and C (3, 2, 1). The bottom staff shows a melody line with lyrics: "This is my song. I like to sing." The melody consists of eighth and quarter notes, with a rest in the second measure.

## Hammer-on and pull-off

Hammer-on and pull-off can be obtained using slurs.

```
\new TabStaff {
  \relative c' {
    d4( e\2)
    a( g)
```

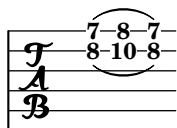
```
}
}
```



## Hammer-on and pull-off using chords

When using hammer-on or pull-off with chorded notes, only a single arc is drawn. However “double arcs” are possible by setting the `doubleSlurs` property to `#t`.

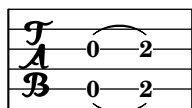
```
\new TabStaff {
  \relative c' {
    % chord hammer-on and pull-off
    \set doubleSlurs = ##t
    <g' b>8( <a c> <g b>)
  }
}
```



## Hammer-on and pull-off using voices

The arc of hammer-on and pull-off is upwards in voices one and three and downwards in voices two and four:

```
\new TabStaff {
  \relative c' {
    << { \voiceOne g2( a) }
    \\\ { \voiceTwo a,( b) }
    >> \oneVoice
  }
}
```



## Com canviar la posició d'un diagrama de posicions

Si volem moure un diagrama de posicions d'acord, per exemple, per evitar una col·lisió, o situar-lo entre dues notes, tenim diverses possibilitats:

- 1) modificar els valors de farciment `#'padding` o del desplaçament addicional `#'extra-offset` (como es mostra en el primer exemple)
- 2) podem afegir una veu invisible i adjuntar els diagrames de posicions a les notes invisibles d'aquesta veu (com es veu en el segon exemple).

Si hem de moure el diagrama segons una posició rítmica dins del compàs (a l'exemple, la tercera part del compàs) és millor el segon exemple, perquè el diagrama s'alinea amb la tercera pulsació per si sol

```
harmonies = \chordmode
```



```

{
  a8:13
  \once \override ChordNames.ChordName.extra-offset = #'(10 . 0)
  b8:13 s4. |
  s2 b2:13
}

\score {
  <<
    \new ChordNames \harmonies
    \new Staff {
      % Method 1.
      a8~\markup \fret-diagram "6-x;5-0;4-2;3-0;2-0;1-2;"
      \once \override TextScript.extra-offset = #'(10 . 0)
      b4.~\markup \fret-diagram "6-x;5-2;4-4;3-2;2-2;1-4;"
      b4. a8 | \break

      % Method 2.
      <<
        { a8 b4.~ b4. a8 }
        { s2 s2~\markup \fret-diagram "6-x;5-2;4-4;3-2;2-2;1-4;" }
      >> |
    }
  >>
}

```

The image displays a musical score for two staves. The first staff begins with a treble clef and a common time signature 'c'. It features two fret diagrams: one for an A9 add13 chord (fret 6 on the 6th string, 5 on the 5th, 4 on the 4th, 3 on the 3rd, 2 on the 2nd, and 1 on the 1st) and another for a B9 add13 chord (fret 6 on the 6th string, 5 on the 5th, 4 on the 4th, 3 on the 3rd, 2 on the 2nd, and 1 on the 1st). The second staff is marked with a '2' and also shows a B9 add13 fret diagram. The notation includes eighth notes and a dotted half note, with a slur connecting the two staves.

## Plantilla per a combo de jazz

Això és una plantilla força avançada, per a un conjunt de jazz. Observeu que la notació de tots els instruments està a `\key c \major` (Do major). Això es refereix al to de concert; l'armadura es transporta automàticament si la música està dins d'una secció `\transpose`.

```

\header {
  title = "Song"
  subtitle = "(tune)"
  composer = "Me"
  meter = "moderato"
  piece = "Swing"
  tagline = \markup \column {
    "LilyPond example file by Amelie Zapf,"
  }
}

```

```

        "Berlin 07/07/2003" }
}

% To make the example display properly in the documentation.
\paper {
  paper-width = 130\mm
  paper-height = 205\mm
}

% #(set-global-staff-size 16)

\include "english.ly"

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% Some macros %%%%%%%%%%%%%%

sl = { \override NoteHead.style = #'slash
       \hide Stem }
nsl = { \revert NoteHead.style
        \undo \hide Stem }
crOn = \override NoteHead.style = #'cross
crOff = \revert NoteHead.style

% Insert chord name style stuff here.

jazzChords = { }

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% Keys'n'things %%%%%%%%%%%%%%

global = { \time 4/4 }

Key = { \key c \major }

% ##### Horns #####

% ----- Trumpet -----
trpt = \transpose c d \relative c' {
  \Key
  c1 | c | c |
}
trpHarmony = \transpose c' d {
  \jazzChords
}
trumpet = {
  \global
  \clef treble
  \trpt
}

% ----- Alto Saxophone -----
alto = \transpose c a \relative c' {

```

```

    \Key
    c1 | c | c |
}
altoHarmony = \transpose c' a {
    \jazzChords
}
altoSax = {
    \global
    \clef treble
    \alto
}

% ----- Baritone Saxophone -----
bari = \transpose c a' \relative c {
    \Key
    c1 | c1 |
    \sl d4^"Solo" d d d \ns1 |
}
bariHarmony = \transpose c' a \chordmode {
    \jazzChords
    s1 | s |
    d2:maj e:m7 |
}
bariSax = {
    \global
    \clef treble
    \bari
}

% ----- Trombone -----
tbone = \relative c {
    \Key
    c1 | c | c |
}
tboneHarmony = \chordmode {
    \jazzChords
}
trombone = {
    \global
    \clef bass
    \tbone
}

% ##### Rhythm Section #####

% ----- Guitar -----
gtr = \relative c'' {
    \Key
    c1 |
    \sl b4 b b b \ns1 |
    c1 |
}

```

```

gtrHarmony = \chordmode {
  \jazzChords
  s1 | c2:min7+ d2:maj9 | s1 |
}
guitar = {
  \global
  \clef treble
  \gtr
}

%% ----- Piano -----
rhUpper = \relative c'' {
  \voiceOne
  \Key
  c1 | c | c |
}
rhLower = \relative c' {
  \voiceTwo
  \Key
  e1 | e | e |
}

lhUpper = \relative c' {
  \voiceOne
  \Key
  g1 | g | g |
}
lhLower = \relative c {
  \voiceTwo
  \Key
  c1 | c | c |
}

PianoRH = {
  \clef treble
  \global
  <<
    \new Voice = "one" \rhUpper
    \new Voice = "two" \rhLower
  >>
}
PianoLH = {
  \clef bass
  \global
  <<
    \new Voice = "one" \lhUpper
    \new Voice = "two" \lhLower
  >>
}

piano = <<
  \new Staff = "upper" \PianoRH

```

```

\new Staff = "lower" \PianoLH
>>

% ----- Bass Guitar -----
Bass = \relative c {
  \Key
  c1 | c | c |
}
bass = {
  \global
  \clef bass
  \Bass
}

% ----- Drums -----
up = \drummode {
  \voiceOne
  hh4 <hh sn> hh <hh sn> |
  hh4 <hh sn> hh <hh sn> |
  hh4 <hh sn> hh <hh sn> |
}
down = \drummode {
  \voiceTwo
  bd4 s bd s |
  bd4 s bd s |
  bd4 s bd s |
}

drumContents = {
  \global
  <<
    \new DrumVoice \up
    \new DrumVoice \down
  >>
}

%%%%%%%%%% It All Goes Together Here %%%%%%%%%%%

\book { % For the LilyPond documentation.
  \score {
    <<
      \new StaffGroup = "horns" <<
        \new Staff = "trumpet" \with { instrumentName = "Trumpet" }
        \trumpet
        \new Staff = "altosax" \with { instrumentName = "Alto Sax" }
        \altoSax
        \new ChordNames = "barichords" \with { instrumentName = "Bari Sax" }
        \bariHarmony
        \new Staff = "barisax" \with { instrumentName = "Bari Sax" }
        \bariSax
        \new Staff = "trombone" \with { instrumentName = "Trombone" }

```

```

        \trombone
    >>

\new StaffGroup = "rhythm" <<
  \new ChordNames = "chords" \with { instrumentName = "Guitar" }
    \gtrHarmony
  \new Staff = "guitar" \with { instrumentName = "Guitar" }
    \guitar
  \new PianoStaff = "piano" \with {
    instrumentName = "Piano"
    midiInstrument = "acoustic grand"
  } \piano
  \new Staff = "bass" \with { instrumentName = "Bass" }
    \bass
  \new DrumStaff \with { instrumentName = "Drums" }
    \drumContents
  >>
>>

\layout {
  \context {
    \Staff
    \RemoveEmptyStaves
  }
  \context {
    \Score
    \override BarNumber.padding = 3
    \override RehearsalMark.padding = 2
    skipBars = ##t
  }
}
\midi { }
}

```

## Song

(tune)

Me

moderato  
Swing

Trumpet

Alto Sax

Bari Sax

Trombone

Guitar

Piano

Bass

Drums

B<sup>Δ</sup> C<sup>#</sup>m<sup>7</sup>

Cm<sup>Δ</sup> D<sup>Δ</sup>9

LilyPond example file by Amelie Zapf,  
Berlin 07/07/2003

## Lligaduras “Laissez vibrer”

Les lligadures “Laissez vibrer” (deixar vibrar) tenen una mida fixa. Es pot ajustar el seu format usant 'tie-configuration.

```
\relative c' {
  <c e g>4\laissezVibrer r <c f g>\laissezVibrer r
  <c d f g>4\laissezVibrer r <c d f g>4.\laissezVibrer r8

  <c d e f>4\laissezVibrer r
  \override LaissezVibrerTieColumn.tie-configuration
    = #`((-7 . ,DOWN)
      (-5 . ,DOWN)
```

```

        (-3 . ,UP)
        (-1 . ,UP))
    <c d e f>4\laissezVibrer r
}

```



## Let TabStaff print the topmost string at bottom

In tablatures, the first string is usually printed topmost. If you want to have it at the bottom, set the `stringOneTopmost` context property to `##f`. For a context-wide setting this could be done in the `\layout` block as well.

```

%\layout {
% \context {
%   \Score
%   stringOneTopmost = ##f
% }
% \context {
%   \TabStaff
%   tablatureFormat = #fret-letter-tablature-format
% }
%}

m = {
  \cadenzaOn
  e, b, e gis! b e'
  \bar "||"
}

<<
  \new Staff {
    \clef "G_8"
    <>_"default" \m
    <>_"italian (historic)"\m
  }
  \new TabStaff
  {
    \m
    \set Score.stringOneTopmost = ##f
    \set TabStaff.tablatureFormat = #fret-letter-tablature-format
    \m
  }
>>

```



default      italian (historic)

## Donar format a tabulatures amb lletres

Es pot donar format a la tabulatura usant lletres en comptes de nombres.

```
music = \relative c {
  c4 d e f
  g4 a b c
  d4 e f g
}

<<
\new Staff {
  \clef "G_8"
  \music
}
\new TabStaff \with {
  tablatureFormat = #fret-letter-tablature-format
} {
  \music
}
>>
```

## Referència per a armònics sobre cordes a l'aire

Referència per a armònics sobre cordes a l'aire (armònics naturals):

```
openStringHarmonics = {
  \textSpannerDown
  \override TextSpanner.staff-padding = 3
  \override TextSpanner.dash-fraction = 0.3
  \override TextSpanner.dash-period = 1

  % first harmonic
  \override TextSpanner.bound-details.left.text =
    \markup\small "1st harm. "
  \harmonicByFret 12 e,2\6\startTextSpan
  \harmonicByRatio #1/2 e,\6\stopTextSpan
```

```
% second harmonic
\override TextSpanner.bound-details.left.text =
  \markup\small "2nd harm. "
\harmonicByFret 7 e,\6\startTextSpan
\harmonicByRatio #1/3 e,\6
\harmonicByFret 19 e,\6
\harmonicByRatio #2/3 e,\6\stopTextSpan
%\harmonicByFret 19 < e,\6 a,\5 d\4 >
%\harmonicByRatio #2/3 < e,\6 a,\5 d\4 >
```

```
% third harmonic
\override TextSpanner.bound-details.left.text =
  \markup\small "3rd harm. "
\harmonicByFret 5 e,\6\startTextSpan
\harmonicByRatio #1/4 e,\6
\harmonicByFret 24 e,\6
\harmonicByRatio #3/4 e,\6\stopTextSpan
\break
```

```
% fourth harmonic
\override TextSpanner.bound-details.left.text =
  \markup\small "4th harm. "
\harmonicByFret 4 e,\6\startTextSpan
\harmonicByRatio #1/5 e,\6
\harmonicByFret 9 e,\6
\harmonicByRatio #2/5 e,\6
\harmonicByFret 16 e,\6
\harmonicByRatio #3/5 e,\6\stopTextSpan
```

```
% fifth harmonic
\override TextSpanner.bound-details.left.text =
  \markup\small "5th harm. "
\harmonicByFret 3 e,\6\startTextSpan
\harmonicByRatio #1/6 e,\6\stopTextSpan
\break
```

```
% sixth harmonic
\override TextSpanner.bound-details.left.text =
  \markup\small "6th harm. "
\harmonicByFret 2.7 e,\6\startTextSpan
\harmonicByRatio #1/7 e,\6\stopTextSpan
```

```
% seventh harmonic
\override TextSpanner.bound-details.left.text =
  \markup\small "7th harm. "
\harmonicByFret 2.3 e,\6\startTextSpan
\harmonicByRatio #1/8 e,\6\stopTextSpan
```

```
% eighth harmonic
\override TextSpanner.bound-details.left.text =
  \markup\small "8th harm. "
\harmonicByFret 2 e,\6\startTextSpan
```

```

\harmonicByRatio #1/9 e,\6\stopTextSpan
}

\score {
  <<
    \new Staff \with { \omit StringNumber } {
      \new Voice {
        \clef "treble_8"
        \openStringHarmonics
      }
    }
    \new TabStaff {
      \new TabVoice {
        \openStringHarmonics
      }
    }
  >>
}

```

The image displays a musical score for the first six harmonics of the open string 'e' (E4) on a fretted string instrument. The score is organized into three systems, each featuring a treble staff and a corresponding tablature staff. The first system covers the 1st, 2nd, and 3rd harmonics, with fret numbers (12), (12), (7), (7), (19), (19), (5), (5), (24), and (24) shown in the tablature. The second system covers the 4th and 5th harmonics, with fret numbers (4), (4), (9), (9), (16), (16), (3), and (3) shown. The third system covers the 6th, 7th, and 8th harmonics, with fret numbers (2.7), (2.7), (2.3), (2.3), (2), and (2) shown. The treble staff shows the pitch of each harmonic, with the 4th, 5th, and 6th harmonics marked with a sharp sign (#) to indicate they are F#4, G#4, and A4 respectively.

## Posicionament de digitacions de mà dreta

És possible exercir un control més gran sobre la col·locació de les digitacions de la mà dreta establint el valor d'una propietat específica, com es mostra a l'exemple següent. Nota: s'ha d'usar una construcció d'acord.

```

\define RH rightHandFinger

```

```

\relative c {
  \clef "treble_8"

```

```

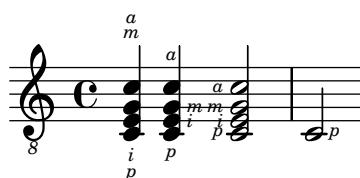
\set strokeFingerOrientations = #'(up down)
<c\RH 1 e\RH 2 g\RH 3 c\RH 4 >4

\set strokeFingerOrientations = #'(up right down)
<c\RH 1 e\RH 2 g\RH 3 c\RH 4 >4

\set strokeFingerOrientations = #'(left)
<c\RH 1 e\RH 2 g\RH 3 c\RH 4 >2

\set strokeFingerOrientations = #'(right)
c\RH 1
}

```



## Polifonia en tabulatures

La polifonia es crea de la mateixa forma en un TabStaff que en una pauta normal.

```

upper = \relative c' {
  \time 12/8
  \key e \minor
  \voiceOne
  r4. r8 e, fis g16 b g e e' b c b a g fis e
}

lower = \relative c {
  \key e \minor
  \voiceTwo
  r16 e d c b a g4 fis8 e fis g a b c
}

\score {
  \new StaffGroup = "tab with traditional" <<
    \new Staff = "guitar traditional" <<
      \clef "treble_8"
      \new Voice = "upper" \upper
      \new Voice = "lower" \lower
    >>

    \new TabStaff = "guitar tab" <<
      \new TabVoice = "upper" \upper
      \new TabVoice = "lower" \lower
    >>
  >>
}

```

## Setting up predefined fretboards for other instruments

Predefined fret diagrams can be added for new instruments in addition to the standard diagrams used for guitar. This file shows how this is done by defining a new string tuning and a few predefined fretboards for the Venezuelan *cuatro*.

This file also shows how fingerings can be included in the chords used as reference points for the chord lookup, and displayed in the fret diagram and the TabStaff, but not the music.

These fretboards are not transposable because they contain string information. This is planned to be corrected in the future.

```
% Add fretboards for the cuatro.
%
% Note: This section could be put into a separate file
%       `predefined-cuatro-fretboards.ly`
%       and be \included into each of your compositions.
```

```
cuatroTuning = #`(,(ly:make-pitch 0 6 0)
                  ,(ly:make-pitch 1 3 SHARP)
                  ,(ly:make-pitch 1 1 0)
                  ,(ly:make-pitch 0 5 0))
```

```
dSix = { <a\4 b\1 d\3 fis\2> }
dMajor = { <a\4 d\1 d\3 fis \2> }
aMajSeven = { <a\4 cis\1 e\3 g\2> }
dMajSeven = { <a\4 c\1 d\3 fis\2> }
gMajor = { <b\4 b\1 d\3 g\2> }
```

```
\storePredefinedDiagram #default-fret-table \dSix
                        #cuatroTuning
                        "o;o;o;o;"
\storePredefinedDiagram #default-fret-table \dMajor
                        #cuatroTuning
                        "o;o;o;3-3;"
\storePredefinedDiagram #default-fret-table \aMajSeven
                        #cuatroTuning
                        "o;2-2;1-1;2-3;"
\storePredefinedDiagram #default-fret-table \dMajSeven
                        #cuatroTuning
                        "o;o;o;1-1;"
\storePredefinedDiagram #default-fret-table \gMajor
                        #cuatroTuning
                        "2-2;o;1-1;o;"
```

```

% End of potential include file `predefined-cuatro-fretboards.ly`.

#(set-global-staff-size 16)

primerosNames = \chordmode {
  d:6 d a:maj7 d:maj7
  g
}
primeros = {
  \dSix \dMajor \aMajSeven \dMajSeven
  \gMajor
}

\score {
  <<
    \new ChordNames {
      \set chordChanges = ##t
      \primerosNames
    }

    \new Staff {
      \new Voice \with {
        \remove "New_fingering_engraver"
      }
      \relative c'' {
        \primeros
      }
    }

    \new FretBoards {
      \set Staff.stringTunings = #cuatroTuning
      % \override FretBoard
      % #'(fret-diagram-details string-count) = 4
      \override FretBoard.fret-diagram-details.finger-code = #'in-dot
      \primeros
    }

    \new TabStaff \relative c'' {
      \set TabStaff.stringTunings = #cuatroTuning
      \primeros
    }

  >>

  \layout {
    \context {
      \Score
      \override SpacingSpanner.base-shortest-duration =
        \musicLength 16
    }
  }
}

```

```
\midi { }
}
```

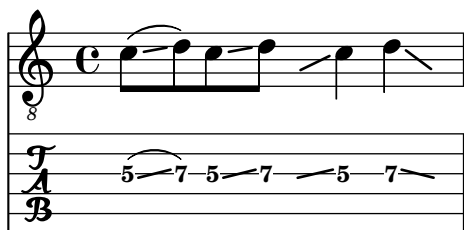
## Lliscats en tabulatura

Els lliscats es poden gravar tant als contextos de Staff como en los de TabStaff:

```
slides = {
  c'8\3(\glissando d'8\3)
  c'8\3\glissando d'8\3
  \hideNotes
  \grace { g16\glissando }
  \unHideNotes
  c'4\3
  \afterGrace d'4\3\glissando {
    \stemDown \hideNotes
    g16 }
  \unHideNotes
}

\score {
  <<
    \new Staff { \clef "treble_8" \slides }
    \new TabStaff { \slides }
  >>

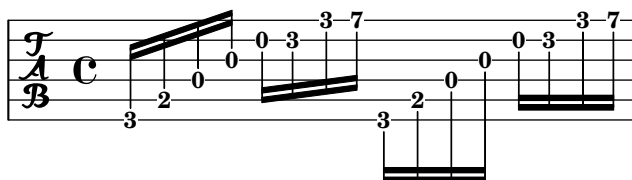
  \layout {
    \context {
      \Score
      \override Glissando.minimum-length = 4
      \override Glissando.springs-and-rods =
        #ly:spanner::set-spacing-rods
      \override Glissando.thickness = 2
      \omit StringNumber
      % or:
      %\override StringNumber.stencil = ##f
    }
  }
}
```



## Comportament de les pliques i les barres de corxera en tabulatures

La direcció de les pliques es controla de la mateixa forma a la tabulatura que en la notació tradicional. Les barres es poden posar horitzontals, com es mostra en aquest exemple.

```
\new TabStaff {
  \relative c {
    \tabFullNotation
    g16 b d g b d g b
    \stemDown
    \override Beam.concaveness = 10000
    g,,16 b d g b d g b
  }
}
```



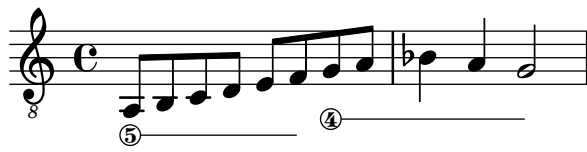
## Línies d'extensió per a nombre de corda

Fem una línia extensora per a les indicacions de nombre de corda, mostrant que una sèrie de notes s'han de tocar sobre la mateixa corda.

```
stringNumberSpanner =
  #(define-music-function (StringNumber) (string?)
    #{
      \override TextSpanner.style = #'solid
      \override TextSpanner.font-size = #-5
      \override TextSpanner.bound-details.left.stencil-align-dir-y = #CENTER
      \override TextSpanner.bound-details.left.text =
        \markup { \circle \number $StringNumber }
    #})

\relative c {
  \clef "treble_8"
  \textSpannerDown
  \stringNumberSpanner "5" a8\startTextSpan b c d
  e f\stopTextSpan \stringNumberSpanner "4" g\startTextSpan a |
  bes4 a g2\stopTextSpan
}
```





## 14 Unfretted string instruments

See also Secció “Unfretted string instruments” in *Referencia de la Notación*.

### Fer lligadures entre veus diferents

En determinades situacions cal crear lligadures d’expressió entre notes que estan a veus diferents.

La solució és afegir notes invisible a una de les veus utilitzant `\hideNotes`.

Aquest exemple és el compàs 235 de la Chacona de la segona Partita per a violí sol, BWV 1004, de Bach.

```
\relative c' {
  <<
  {
    d16( a') s a s a[ s a] s a[ s a]
  }
  \\\
  {
    \slurUp
    bes,16[ s e](
    \hideNotes a)
    \unHideNotes f[(
    \hideNotes a)
    \unHideNotes fis](
    \hideNotes a)
    \unHideNotes g[(
    \hideNotes a)
    \unHideNotes gis](
    \hideNotes a)
  }
  >>
}
```



### Harmònics amb puntet

Els harmònics artificials que usen l’ordre `\harmonic` no tenen puntet. Per sobreesciure aquest comportament, fixeiu la propietat de context `harmonicDots`.

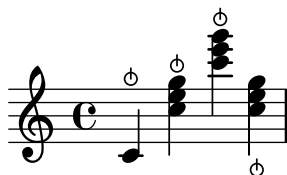
```
\relative c' '' {
  \time 3/4
  \key f \major
  \set harmonicDots = ##t
  <bes f'\harmonic>2. ~
  <bes f'\harmonic>4. <a e'\harmonic>8( <gis dis'\harmonic> <g d'\harmonic>)
  <fis cis'\harmonic>2.
  <bes f'\harmonic>2.
}
```



## Snap pizzicato (“Bartok” pizzicato)

A snap pizzicato (also known as “Bartok pizzicato”) is a “strong pizzicato where the string is plucked vertically by snapping and rebounds off the fingerboard of the instrument” (Wikipedia). It is denoted by a circle with a vertical line going from the center upwards outside the circle.

```
\relative c' {
  c4\snappizzicato
  <c' e g>4\snappizzicato
  <c' e g>4^\snappizzicato
  <c, e g>4_\snappizzicato
}
```



## Plantilla de quartet de cordas (senzilla)

Aquesta plantilla mostra un quartet de corda normal. També utilitza una secció `\global` per al compàs i l’armadura.

```
global= {
  \time 4/4
  \key c \major
}

violinOne = \new Voice \relative c' {
  c2 d
  e1
  \bar "|"
}

violinTwo = \new Voice \relative c' {
  g2 f
  e1
  \bar "|"
}

viola = \new Voice \relative c' {
  \clef alto
  e2 d
  c1
  \bar "|"
}

cello = \new Voice \relative c' {
```

```

\clef bass
c2 b
a1
\bar "|."
}

\score {
  \new StaffGroup <<
    \new Staff \with { instrumentName = "Violin 1" }
      << \global \violinOne >>
    \new Staff \with { instrumentName = "Violin 2" }
      << \global \violinTwo >>
    \new Staff \with { instrumentName = "Viola" }
      << \global \viola >>
    \new Staff \with { instrumentName = "Cello" }
      << \global \cello >>
  >>
  \layout { }
  \midi { }
}

```

## Plantilla de quartet de corda amb partícels independents

El fragment de codi “Plantilla de quartet de corda” produeix un resultat satisfactori per al quartet, però, i si hem d'imprimir les partícels? Aquesta nova plantilla mostra com usar la funcionalitat `\tag` (etiqueta) per dividir fàcilment una peça en partícels individuals.

Hem de dividir aquesta plantilla en fitxers independents; els noms de fitxer estan dins dels comentaris al principi de cada fitxer. `piece.ly` conté totes les definicions de música. Els altres fitxers (`score.ly`, `vn1.ly`, `vn2.ly`, `vla.ly` i `vlc.ly`) produeixen la partícula corresponent.

No oblideu treure els comentaris que hem especificat quan useu els fitxers independents!

```

% piece.ly
% (This is the global definitions file.)

```

```

global= {
  \time 4/4
  \key c \major
}

```

```

Violinone = \new Voice \relative c' {
  c2 d e1
  \bar "|."
}

Violintwo = \new Voice \relative c' {
  g2 g e1
  \bar "|."
}

Viola = \new Voice \relative c' {
  \clef alto
  e2 d c1
  \bar "|."
}

Cello = \new Voice \relative c' {
  \clef bass
  c2 b a1
  \bar "|."
}

music = <<
  \tag #'score \tag #'vn1
  \new Staff \with { instrumentName = "Violin 1" }
    << \global \Violinone >>

  \tag #'score \tag #'vn2
  \new Staff \with { instrumentName = "Violin 2" }
    << \global \Violintwo >>

  \tag #'score \tag #'vla
  \new Staff \with { instrumentName = "Viola" }
    << \global \Viola >>

  \tag #'score \tag #'vlc
  \new Staff \with { instrumentName = "Cello" }
    << \global \Cello >>
>>

% These are the other files you need to save on your computer

% score.ly
% (This is the main file.)

% Uncomment the line below when using a separate file.
% \include "piece.ly"

#(set-global-staff-size 14)

\score {

```

```

\new StaffGroup \keepWithTag #'score \music
\layout { }
\midi { }
}

%{ Uncomment this block when using separate files.

% vn1.ly
% (This is the Violin 1 part file.)

\include "piece.ly"
\score {
  \keepWithTag #'vn1 \music
  \layout { }
}

% vn2.ly
% (This is the Violin 2 part file.)

\include "piece.ly"
\score {
  \keepWithTag #'vn2 \music
  \layout { }
}

% vla.ly
% (This is the Viola part file.)

\include "piece.ly"
\score {
  \keepWithTag #'vla \music
  \layout { }
}

% vlc.ly
% (This is the Cello part file.)

\include "piece.ly"
\score {
  \keepWithTag #'vlc \music
  \layout { }
}

%}

```

Violin 1

Violin 2

Viola

Cello

## 15 Wind instruments

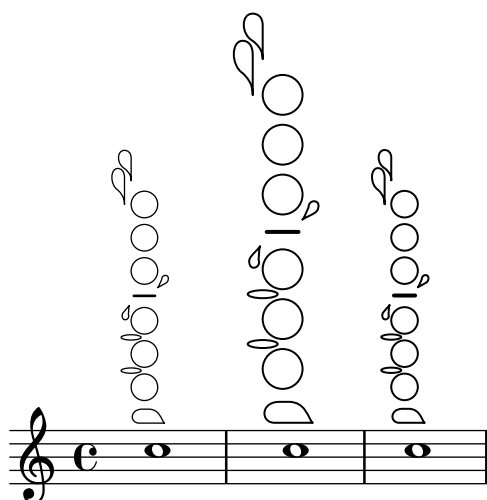
See also Secció “Wind instruments” in *Referencia de la Notación*.

### Modificar la mida dels diagrames de vent fusta

Es pot canviar la mida i el gruix de les línies dels diagrames de posicions per a instruments de vent fusta.

```
\relative c' ' {
  \textLengthOn
  c1^\markup
    \woodwind-diagram #'piccolo #'()

  c^\markup \override #'(size . 1.5)
    \woodwind-diagram #'piccolo #'()
  c^\markup \override #'(thickness . 0.15)
    \woodwind-diagram #'piccolo #'()
}
```



### Símbols de digitació per a instruments de vent

Es poden aconseguir símbols especials combinant glifs existents, cosa que és d'utiitat per a la notació d'instruments de vent.

```
lineup =
  \tweak outside-staff-padding #0
  \tweak staff-padding #0
  \tweak padding #0.2
  \tweak parent-alignment-X #CENTER
  \tweak self-alignment-X #CENTER
  \etc

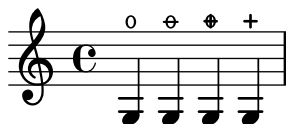
\relative c' {
  g\open
  g\lineup ^\markup \combine
    \musicglyph "scripts.open"
    \musicglyph "scripts.tenuto"
  g\lineup ^\markup \combine
```



```

\musicglyph "scripts.open"
\musicglyph "scripts.stopped"
g\stopped
}

```



## Notació dels cops de llengua de la flauta

És possible indicar tècniques d'articulació especial com el cop de llengua de la flauta substituint el cap de la figura amb el glif adequat.

```

slap =
#(define-music-function (music) (ly:music?)
  #{
    \temporary \override NoteHead.stencil =
      #ly:text-interface::print
    \temporary \override NoteHead.text =
      \markup
        \translate #'(1 . 0)
        \override #'(thickness . 1.4)
        \overlay { \draw-line #'(-1.2 . 0.4)
                    \draw-line #'(-1.2 . -0.4) }
    \temporary \override NoteHead.stem-attachment =
      #(lambda (grob)
        (let* ((stem (ly:grob-object grob 'stem))
              (dir (ly:grob-property stem 'direction UP))
              (is-up (eqv? dir UP)))
          (cons dir (if is-up 0 -0.8)))))
    #music
    \revert NoteHead.stencil
    \revert NoteHead.text
    \revert NoteHead.stem-attachment
  })

\relative c' {
  c4 \slap c d r
  \slap { g4 a } b r
}

```



## Diagrames per a vent fusta gràfics i textuais

En molts casos, les claus que no estan en la columna central es poden presentar pel nombre de la clau així com de forma gràfic.

```

\relative c' {
  \textLengthOn
  c1^\markup

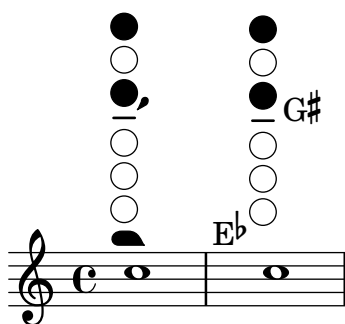
```

```

\woodwind-diagram #'piccolo
      #'((cc . (one three))
        (lh . (gis))
        (rh . (ees)))

c^\markup
  \override #'(graphical . #f)
  \woodwind-diagram #'piccolo
      #'((cc . (one three))
        (lh . (gis))
        (rh . (ees)))
}

```



## Diagrames de digitació per a la flauta dolça

L'exemple següent mostra com es poden realitzar diagrames de digitació per a instruments de vent.

*% range chart for paetzold contrabass recorder*

```

centermarkup = {
  \once \override TextScript.self-alignment-X = #CENTER
  \once \override TextScript.X-offset = #(lambda (g)
    (+ (ly:self-alignment-interface::centered-on-x-parent g)
      (ly:self-alignment-interface::x-aligned-on-self g)))
}

\new Staff \with {
  \remove "Time_signature_engraver"
  \omit Stem
  \omit Flag
  \consists "Horizontal_bracket_engraver"
} {
  \clef bass
  \set Score.timing = ##f

  f,1*1/4 \glissando

  \clef violin
  gis'1*1/4

  a'4^\markup "1)"
}

```

```

\centermarkup
\once \override TextScript.padding = 2
bes'1*1/4_\markup \override #'(baseline-skip . 1.7) \column {
  \fontsize #-5
  \slashed-digit #0 \finger 1 \finger 2
  \finger 3 \finger 4 \finger 5 \finger 6 \finger 7 }

b'1*1/4

c''4^\markup "1)"

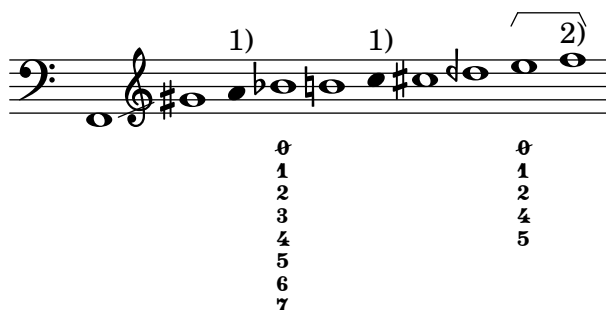
cis''1*1/4

deh''1*1/4

\centermarkup
\once \override TextScript.padding = 2
\once \override Staff.HorizontalBracket.direction = #UP
e''1*1/4_\markup \override #'(baseline-skip . 1.7) \column {
  \fontsize #-5
  \slashed-digit #0 \finger 1 \finger 2
  \finger 4 \finger 5 } \startGroup

f''1*1/4^\markup "2)" \stopGroup
}

```



## Llistes de claus per als diagrames de vent fusta

El fragment de codi que apareix a continuació produeix una llista de totes les claus i disposicions de clau possible per als diagrames de posicions d'instruments de fusta, tal i com estan definits a scm/define-woodwind-diagrams.scm. La llista es mostra al fitxer de registre, però no a la música. Si es vol una sortida per la consola, ometeu el (current-error-port) de les ordres.

```

#(print-keys-verbose 'piccolo (current-error-port))
#(print-keys-verbose 'flute (current-error-port))
#(print-keys-verbose 'flute-b-extension (current-error-port))
#(print-keys-verbose 'tin-whistle (current-error-port))
#(print-keys-verbose 'oboe (current-error-port))
#(print-keys-verbose 'clarinet (current-error-port))
#(print-keys-verbose 'bass-clarinet (current-error-port))
#(print-keys-verbose 'low-bass-clarinet (current-error-port))
#(print-keys-verbose 'saxophone (current-error-port))
#(print-keys-verbose 'soprano-saxophone (current-error-port))
#(print-keys-verbose 'alto-saxophone (current-error-port))

```

```

#(print-keys-verbose 'tenor-saxophone (current-error-port))
#(print-keys-verbose 'baritone-saxophone (current-error-port))
#(print-keys-verbose 'bassoon (current-error-port))
#(print-keys-verbose 'contrabassoon (current-error-port))

```

```
\score {c' '1}
```



## Llistat dels diagrames per a vent fusta

El fragment de música que apareix a continuació presenta tots els diagrames de vent fusta que es troben definits al LilyPond de moment.

```

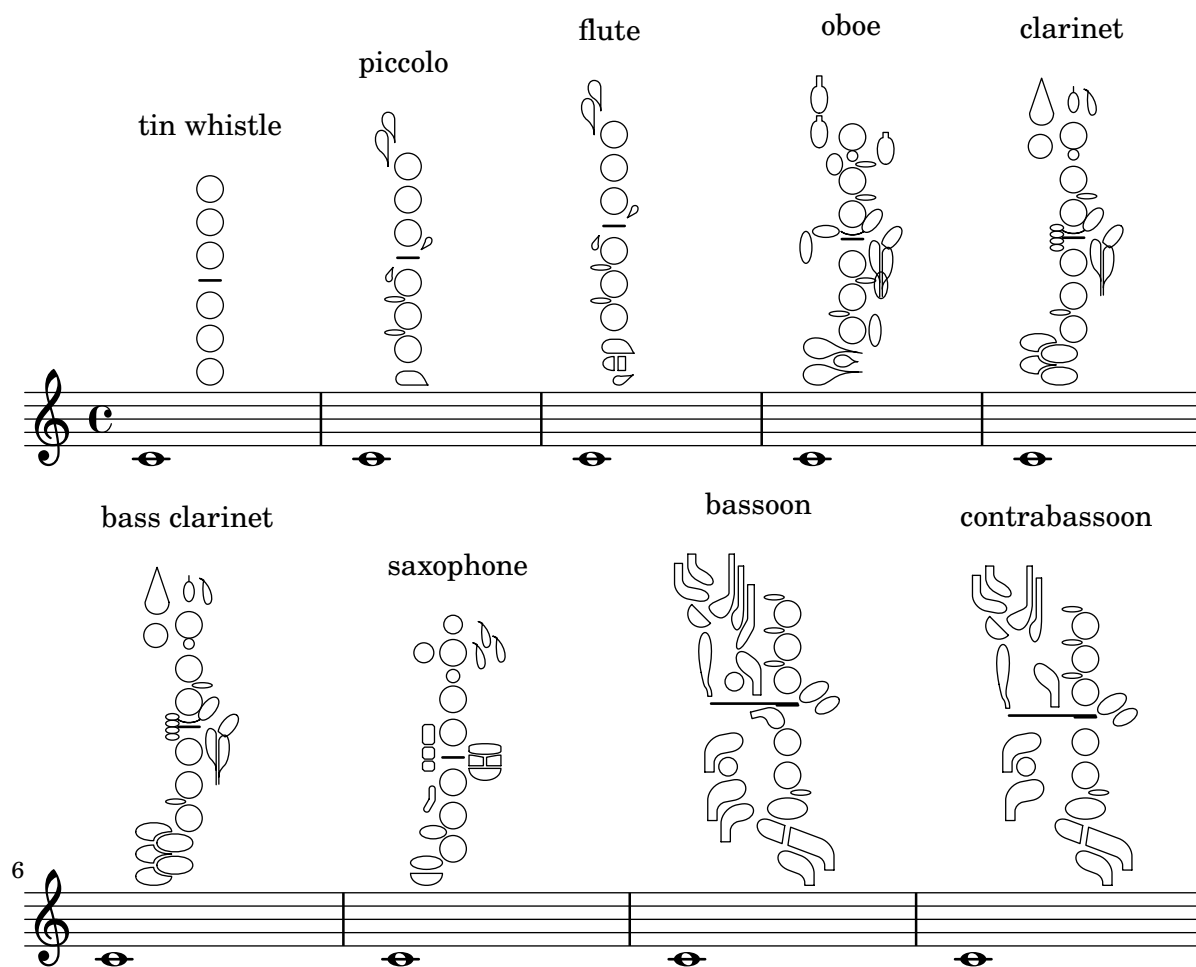
\relative c' {
  \textLengthOn
  c1^\markup \center-column { "tin whistle"
    " "
    \woodwind-diagram #'tin-whistle #'() }
  c1^\markup \center-column { "piccolo"
    " "
    \woodwind-diagram #'piccolo #'() }
  c1^\markup \center-column { "flute"
    " "
    \woodwind-diagram #'flute #'() }
  c1^\markup \center-column { "oboe"
    " "
    \woodwind-diagram #'oboe #'() }
  c1^\markup \center-column { "clarinet"
    " "
    \woodwind-diagram #'clarinet #'() }

  \break

  c1^\markup \center-column { "bass clarinet"
    " "
    \woodwind-diagram #'bass-clarinet #'() }
  c1^\markup \center-column { "saxophone"
    " "
    \woodwind-diagram #'saxophone #'() }
  c1^\markup \center-column { "bassoon"
    " "
    \woodwind-diagram #'bassoon #'() }
  c1^\markup \center-column { "contrabassoon"
    " "
    \woodwind-diagram #'contrabassoon #'() }
}

\paper {
  system-system-spacing.padding = 5
}

```



## 16 Ancient notation

See also Secció “Ancient notation” in *Referencia de la Notación*.

### Afegir un baix xifrat a sobre o a sota de les notes

En escriure un baix xifrat, podem ubicar les xifres a sobre o a sota de les notes del baix, mitjançant la definició de la propietat `BassFigureAlignmentPositioning` #'direction (exclusivament dins d'un context `Staff`). es pot escollir entre `#UP` (o `#1`, a sobre), `#CENTER` (o `#0`, centraat) i `#DOWN` (o `#-1`, a sota).

Aquesta propietat es pot canviar tantes vegades com volem. Utilitzeu `\once \override` si no voleu que la sobreescritura s'apliqui a tota la partitura.

```
bass = {
  \clef bass
  g4 b, c d |
  e d8 c d2
}

continuo = \figuremode {
  <_>4 <6>4 <5/>4
  \bassFigureStaffAlignmentUp
  <_+>4 <6> |
  \set Staff.useBassFigureExtenders = ##t
  \bassFigureStaffAlignmentDown
  <4>4. <4>8 <_+>4
}

\score {
  <<
    \new Staff = bassStaff \bass
    \context Staff = bassStaff \continuo
  >>
}
```



### Ancient fonts

Aquí es mostren molts dels símbols del Lilypond per a la musica antiga.

```
m = { c1 e f ges cis' \bar "||" }
```

```
\markup \with-true-dimensions % work around a cropping issue
\score {
  \new VaticanaVoice {
    \clef "vaticana-fa2"
    \key es \major
    \textMark \markup \rounded-box "Vaticana clefs, custos and note heads"

    \override NoteHead.style = #'vaticana.punctum
```

```

<>^"vaticana.punctum" \m

\override NoteHead.style = #'vaticana.inclinatum
<>^"vaticana.inclinatum" \m

\override NoteHead.style = #'vaticana.quilisma
<>^"vaticana.quilisma" \m

\clef "vaticana-fa1"
\override NoteHead.style = #'vaticana.plica
<>^"vaticana.plica" \m

\override NoteHead.style = #'vaticana.reverse.plica
<>^"vaticana.reverse.plica" \m

\override NoteHead.style = #'vaticana.punctum.cavum
<>^"vaticana.punctum.cavum" \m

\override NoteHead.style = #'vaticana.lpes
<>^"vaticana.punctum.lpes" \m

\override NoteHead.style = #'vaticana.upes
<>^"vaticana.punctum.upes" \m

\override NoteHead.style = #'vaticana.vupes
<>^"vaticana.punctum.vupes" \m

\override NoteHead.style = #'vaticana.linea.punctum
<>^"vaticana.punctum.linea" \m

\override NoteHead.style = #'vaticana.epiphonus
<>^"vaticana.punctum.epiphonus" \m

\override NoteHead.style = #'vaticana.cephalicus
<>^"vaticana.punctum.cephalicus" \m

\break

\textMark \markup \rounded-box "Medicaea clefs, custos and note heads"
\set VaticanaStaff.alterationGlyphs =
  #alteration-medicaea-glyph-name-alist
\override VaticanaStaff.Custos.style = #'medicaea

\clef "medicaea-fa2"
\override NoteHead.style = #'medicaea.punctum
<>^"medicaea.punctum" \m

\clef "medicaea-do2"
\override NoteHead.style = #'medicaea.inclinatum
<>^"medicaea.inclinatum" \m

\override NoteHead.style = #'medicaea.virga

```

```

<>^"medicaea.virga" \m

\clef "medicaea-fa1"
\override NoteHead.style = #'medicaea.rvirga
<>^"medicaea.rvirga" \m

\break

\textMark \markup \rounded-box "Hufnagel clefs, custos and note heads"
\set Staff.alterationGlyphs =
  #alteration-hufnagel-glyph-name-alist
\override VaticanaStaff.Custos.style = #'hufnagel
\clef "hufnagel-fa2"

\break

\override NoteHead.style = #'hufnagel.punctum
<>^"hufnagel.punctum" \m

\clef "hufnagel-do2"
\override NoteHead.style = #'hufnagel.lpes
<>^"hufnagel.lpes" \m

\clef "hufnagel-do-fa"
\override NoteHead.style = #'hufnagel.virga
<>^"hufnagel.virga" \m
}

\layout {
  % Compensate \with-true-dimensions for PDF output.
  line-width = 159\mm

  \context {
    \Score
    \override TextScript.font-size = #-2
    \override TextMark.break-align-symbols = #'(left-edge clef staff-bar)
    \override TextMark.padding = 4
    \omit BarNumber
  }
  \context {
    \VaticanaStaff
    alterationGlyphs =
      #alteration-vaticana-glyph-name-alist
  }
}
}

```



## Vaticana clefs, custos and note heads

Examples of Vaticana notation on a four-line staff:

- vaticana.punctum**: Shows a punctum (a square note head) with a custos (a cross-like symbol) above it.
- vaticana.inclinatum**: Shows an inclinatum (a diamond-shaped note head) with a custos above it.
- vaticana.quilisma**: Shows a quilisma (a square note head) with a custos above it.
- vaticana.plica**: Shows a plica (a square note head) with a custos above it.
- vaticana.reverse.plica**: Shows a reverse plica (a square note head) with a custos above it.
- vaticana.punctum.cavum**: Shows a punctum.cavum (a square note head) with a custos above it.
- vaticana.punctum.lpes**: Shows a punctum.lpes (a square note head) with a custos above it.
- vaticana.punctum.upes**: Shows a punctum.upes (a square note head) with a custos above it.
- vaticana.punctum.vupes**: Shows a punctum.vupes (a square note head) with a custos above it.
- vaticana.punctum.linea**: Shows a punctum.linea (a square note head) with a custos above it.
- vaticana.punctum.epiphonus**: Shows a punctum.epiphonus (a square note head) with a custos above it.
- vaticana.punctum.cephalicus**: Shows a punctum.cephalicus (a square note head) with a custos above it.

## Medicaea clefs, custos and note heads

Examples of Medicaea notation on a four-line staff:

- medicaea.punctum**: Shows a punctum (a square note head) with a custos (a cross-like symbol) above it.
- medicaea.inclinatum**: Shows an inclinatum (a diamond-shaped note head) with a custos above it.
- medicaea.virga**: Shows a virga (a square note head) with a custos above it.
- medicaea.rvirga**: Shows a rvirga (a square note head) with a custos above it.

## Hufnagel clefs, custos and note heads

Examples of Hufnagel notation on a four-line staff:

- hufnagel.punctum**: Shows a punctum (a square note head) with a custos (a cross-like symbol) above it.
- hufnagel.lpes**: Shows a lpes (a square note head) with a custos above it.
- hufnagel.virga**: Shows a virga (a square note head) with a custos above it.

## Ancient notation template – modern transcription of Gregorian music

This example demonstrates how to do modern transcription of Gregorian music. Gregorian music has no measure, no stems; it uses only half and quarter note heads, and special marks, indicating rests of different length.

```
chant = \relative c' {
  \set Score.timing = ##f
  f4 a2 \divisioMinima
  g4 b a2 f2 \divisioMaior
  g4( f) f( g f) a2 \finalis \break
  f4 a2 \divisioMinima
  g4 b a2 f2 \divisioMaior
  g4( f) f( g a) g2( f) \finalis
}

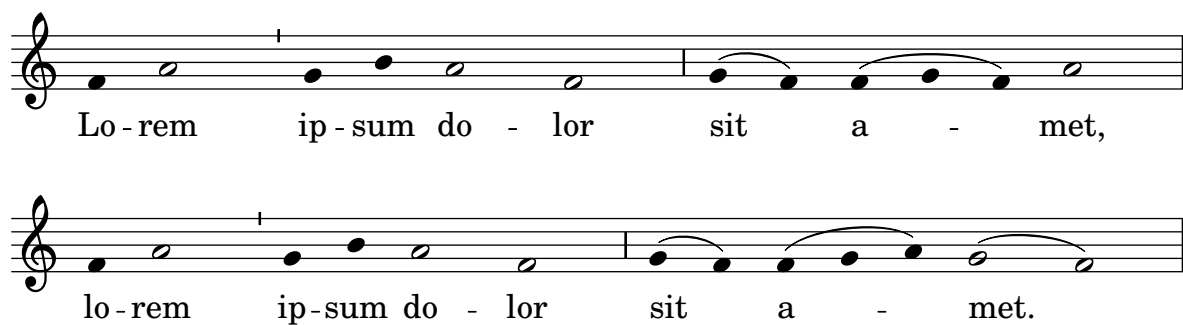
verba = \lyricmode {
  Lo -- rem ip -- sum do -- lor sit a -- met,
  lo -- rem ip -- sum do -- lor sit a -- met.
}
```

```
\score {
  \new GregorianTranscriptionStaff <<
```

```

\new GregorianTranscriptionVoice = "melody" \chant
\new GregorianTranscriptionLyrics = "one" \lyricsto melody \verba
>>
}

```



## Indicacions de compàs antigues

Les indicacions de compàs també es poden gravar en estil antic.

```

{
\override Staff.TimeSignature.style = #'neomensural
s1
}

```



## Chant or psalm notation

This form of notation is used for psalm chant, where verses are not always of the same length.

```

stemOff = \hide Staff.Stem
stemOn  = \undo \stemOff

\score {
  \new Staff \with { \remove "Time_signature_engraver" }
  {
    \key g \minor
    \cadenzaOn
    \stemOff a'\breve bes'4 g'4
    \stemOn a'2 \section
    \stemOff a'\breve g'4 a'4
    \stemOn f'2 \section
    \stemOff a'\breve~\markup { \italic flexe }
    \stemOn g'2 \fine
  }
}

```



## Custos

Es poden gravar «custos» en diferents estils.

```
\layout {
  ragged-right = ##t
}

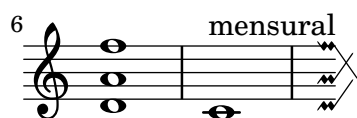
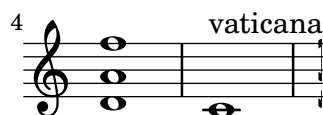
\markup \with-true-dimensions % work around a cropping issue
\score {
  \new Staff \with { \consists "Custos_engraver" } \relative c' {
    \override Staff.Custos.neutral-position = #4

    \override Staff.Custos.style = #'hufnagel
    c1^"hufnagel" \break
    <d a' f'>1

    \override Staff.Custos.style = #'medicaea
    c1^"medicaea" \break
    <d a' f'>1

    \override Staff.Custos.style = #'vaticana
    c1^"vaticana" \break
    <d a' f'>1

    \override Staff.Custos.style = #'mensural
    c1^"mensural" \break
    <d a' f'>1
  }
}
```



## Incipit

En transcriure música mensural, és útil posar un incipit al començament de la peça per indicar la tonalitat i el compàs originals. Actualment els músics estan acostumats a les línies del pentagrama, però en el període de la música mensural encara no s'utilitzaven. Com a compromís, amb freqüència s'imprimeixen línies divisòries entre els pentagrames, un estil de disseny conegut com mensurstriche.

*% A short excerpt from the Jubilate Deo by Orlande de Lassus*

```
global = {
  \set Score.skipBars = ##t
  \key g \major
  \time 4/4

  % the actual music
  \skip 1*8

  % let finis bar go through all staves
  \override Staff.BarLine.transparent = ##f

  % finis bar
  \bar "|."
}

discantusIncipit = \new PetrucciStaff {
  \clef "petrucci-c1"
  \key f \major
  \time 2/2
  c''1.
}

discantusNotes = {
  \transpose c' c'' {
    \clef "treble"
    d'2. d'4 |
    b e' d'2 |
    c'4 e'4.( d'8 c' b |
    a4) b a2 |
    b4.( c'8 d'4) c'4 |
    \once \hide NoteHead
    c'1 |
    b\breve |
  }
}

discantusLyrics = \lyricmode {
  Ju -- bi -- la -- te De -- o,
  om -- nis ter -- ra, __ om-
  "...
  -us.
}
```

```
altusIncipit = \new PetrucciStaff {
  \clef "petrucci-c3"
  \key f \major
  \time 2/2
  e'1\rest f'1.
}
```

```
altusNotes = {
  \transpose c' c'' {
    \clef "treble"
    r2 g2. e4 fis g |
    a2 g4 e |
    fis g4.( fis16 e fis4) |
    g1 |
    \once \hide NoteHead
    g1 |
    g\breve |
  }
}
```

```
altusLyrics = \lyricmode {
  Ju -- bi -- la -- te
  De -- o, om -- nis ter -- ra,
  "...
  -us.
}
```

```
tenorIncipit = \new PetrucciStaff {
  \clef "petrucci-c4"
  \key f \major
  \time 2/2
  r\longa
  r\breve
  r1 c'1.
}
```

```
tenorNotes = {
  \transpose c' c' {
    \clef "treble_8"
    R1 |
    R1 |
    R1 |
    % two measures
    r2 d'2. d'4 b e' |
    \once \hide NoteHead
    e'1 |
    d'\breve |
  }
}
```

```
tenorLyrics = \lyricmode {
  Ju -- bi -- la -- te
```

```

    "...
    -us.
}

bassusIncipit = \new PetrucciStaff {
    % The original print shows the b flat
    % for the f major key signature twice.
    \override Staff.KeySignature.flat-positions = #'((-7 . 6))
    \clef "mensural-f"
    \key f\major
    \time 2/2
    \tweak Y-offset #1 r\longa \tweak Y-offset #1 r\longa
    f1.
}

bassusNotes = {
    \transpose c' c' {
        \clef "bass"
        R1 |
        R1 |
        R1 |
        R1 |
        g2. e4 |
        \once \hide NoteHead
        e1 |
        g\breve |
    }
}

bassusLyrics = \lyricmode {
    Ju -- bi-
    "...
    -us.
}

\score {
    <<
    \new StaffGroup = choirStaff <<
    \new Voice = "discantusNotes" <<
        \set Staff.instrumentName = "Discantus"
        \incipit #1 \discantusIncipit
        \global
        \discantusNotes
    >>
    \new Lyrics \lyricsto discantusNotes { \discantusLyrics }
    \new Voice = "altusNotes" <<
        \set Staff.instrumentName = "Altus"
        \global
        \incipit #1 \altusIncipit
        \altusNotes
    >>
    \new Lyrics \lyricsto altusNotes { \altusLyrics }
}

```

```

\new Voice = "tenorNotes" <<
  \set Staff.instrumentName = "Tenor"
  \global
  \incipit #1 \tenorIncipit
  \tenorNotes
>>
\new Lyrics \lyricsto tenorNotes { \tenorLyrics }
\new Voice = "bassusNotes" <<
  \set Staff.instrumentName = "Bassus"
  \global
  \incipit #1 \bassusIncipit
  \bassusNotes
>>
\new Lyrics \lyricsto bassusNotes { \bassusLyrics }
>>
>>
\layout {
  \context {
    \Score
    %% no bar lines in staves or lyrics
    \hide BarLine
  }
  %% the next two instructions keep the lyrics between the bar lines
  \context {
    \Lyrics
    \consists "Bar_engraver"
    \consists "Separating_line_group_engraver"
  }
  \context {
    \Voice
    %% no slurs
    \hide Slur
    %% Comment in the below "\remove" command to allow line
    %% breaking also at those bar lines where a note overlaps
    %% into the next measure. The command is commented out in this
    %% short example score, but especially for large scores, you
    %% will typically yield better line breaking and thus improve
    %% overall spacing if you comment in the following command.
    %%\remove "Forbid_line_break_engraver"
  }
  indent = 5\cm
  incipit-width = 2.5\cm
}
}

```

Discantus

Altus

Tenor

Bassus

Ju - bi - la - te De - o, om -

Ju - bi - la - te De - o, om -

8

4

- nis ter - ra, om- ... -us.

nis ter - ra, ... -us.

8 Ju - bi - la - te ... -us.

Ju - bi - ... -us.

## Disposició Mensurstriche (línies divisòries entre pentagrames)

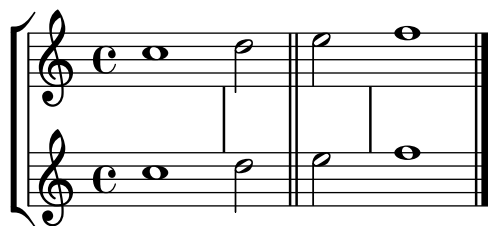
La disposició «mensurstriche» en els quals les línies divisòries no estan dibuixades sobre els pentagrames, sinó entre ells, es pot aconseguir amb un `StaffGroup` en comptes d'un `ChoirStaff`. La línia divisòria sobre els pentagrames s'esborra usant `\hide`.

```
\layout {
  \context {
    \Staff
    measureBarType = "-span|"
  }
}
```

```
music = \fixed c'' {
  c1
  d2 \section e2
  f1 \fine
}
```

```
\new StaffGroup <<
  \new Staff \music
  \new Staff \music
>>
```





## Estils de silencis

Els silencis es poden imprimir en diferents estils.

```
restsA = {
  r\maxima r\longa r\breve r1 r2 r4 r8 r16 s32
  s64 s128 s256 s512 s1024 s1024
}
restsB = {
  r\maxima r\longa r\breve r1 r2 r4 r8 r16 r32
  r64 r128 r256 r512 r1024 s1024
}

\new Staff \relative c {
  \omit Score.TimeSignature
  \cadenzaOn

  \override Staff.Rest.style = #'mensural
  <>\markup \typewriter { mensural } \restsA \bar "" \break

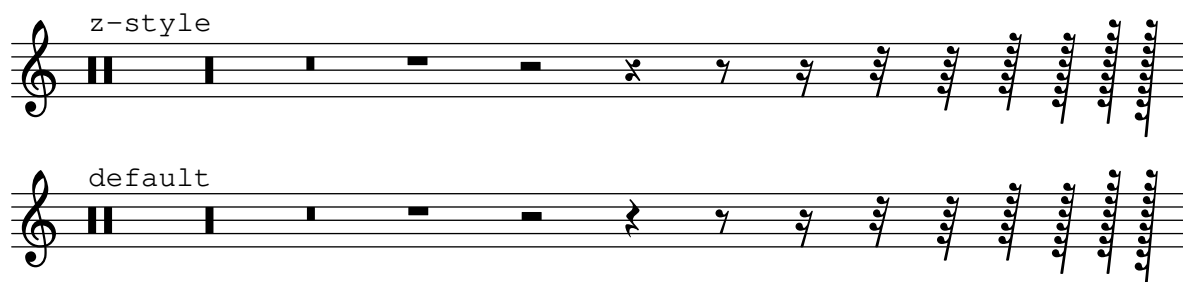
  \override Staff.Rest.style = #'neomensural
  <>\markup \typewriter { neomensural } \restsA \bar "" \break

  \override Staff.Rest.style = #'classical
  <>\markup \typewriter { classical } \restsB \bar "" \break

  \override Staff.Rest.style = #'z
  <>\markup \typewriter { z-style } \restsB \bar "" \break

  \override Staff.Rest.style = #'default
  <>\markup \typewriter { default } \restsB \bar "" \break
}
```





## Using tags to produce mensural and modern music from the same source

Using tags it is possible to produce both mensural and modern notation from the same music. In this snippet, a function `\menrest` is introduced, allowing mensural rests to be pitched as in the original, but with modern rests in the standard staff position.

Tags can also be used where other differences are needed: for example using “whole measure rests” (`R1`, `R\breve`, etc.) in modern music, but normal rests (`r1`, `r\breve`, etc.) in the mensural version. Converting mensural music to its modern equivalent is usually referred to as *transcription*.

The call `c4.\Be c8 c\Am` is the same as `c4.[ c8 c]`. However, it suppresses warnings if it starts on a note that can’t hold a beam but needs it anyway due to the use of `Completion_heads_engraver`.

[Note that the custos sticks out into the right margin and might be cut off if the LilyPond output gets cropped tightly. The use of `\with-true-dimensions` below avoids this.]

```
\layout {
  line-width = 150\mm
}

menrest = #(define-music-function (note) (ly:music?)
  #{
    \tag #'mens $(make-music 'RestEvent note)
    \tag #'mod $(make-music 'RestEvent note 'pitch '())
  #})

Be = \tag #'mod
  #(begin
    (ly:expect-warning (G_ "stem does not fit in beam"))
    (ly:expect-warning (G_ "beam was started here"))
    (make-span-event 'BeamEvent START))

Am = \tag #'mod ]

MenStyle = {
  \override Score.BarNumber.transparent = ##t
  \override Stem.neutral-direction = #up
  \omit Slur
  \omit Beam
}

finalis = \section

Music = \relative c'' {
  \key f \major
```

```

g1 d'2 \menrest bes4 bes a2 \menrest r4 g4 fis4. fis8 fis4 fis \break
g e f4.([ g8] a4[ g8 f] g2.\Be fis8 e\Am fis2) g\breve \finalis
}

```

```

MenLyr = \lyricmode {
  So farre, deere life, deare life,
  from thy bright beames ab- en- ted,
}

```

```

ModLyr = \lyricmode {
  So far, dear life, dear life,
  from your bright beams ab -- sen -- ted, __
}

```

```
\markup \with-true-dimensions % work around a cropping issue
```

```

\score {
  \keepWithTag #'mens {
    <<
      \new PetrucciStaff {
        \new PetrucciVoice = "Cantus" {
          \clef "petrucci-c1" \time 4/4 \MenStyle \Music
        }
      }
      \new Lyrics \lyricsto "Cantus" \MenLyr
    >>
  }
  \layout {
    \context {
      \PetrucciVoice
      % No longer necessary starting with version 2.25.23.
      \override Flag.style = #'mensural
    }
  }
}

```

```
\markup \vspace #1
```

```

\score {
  \keepWithTag #'mod {
    \new ChoirStaff <<
      \new Staff {
        \new Voice = "Sop" \with {
          \remove "Note_heads_engraver"
          \consists "Completion_heads_engraver"
          \remove "Rest_engraver"
          \consists "Completion_rest_engraver"
        } \shiftDurations 1 0 { \time 2/4 \autoBeamOff \Music }
      }
      \new Lyrics \lyricsto "Sop" \ModLyr
    >>
  }
}

```

So farre, deere life, deare life, from thy bright  
beames ab- fen- ted,

So far, dear life, dear life, from your bright  
beams ab - sen - - - ted,

## Línia vertical com una articulació barroca

Aquesta línia curta vertical a sobre de la nota és d'ús comú en la música barroca. El seu significat varia, però en general indica notes que s'han de tocar amb més "pes". L'exemple següent mostra com aconseguir aquesta notació.

```

upline =
\tweak stencil
#(lambda (grob)
  (grob-interpret-markup grob #{ \markup \draw-line #'(0 . 1) #}))
\stopped

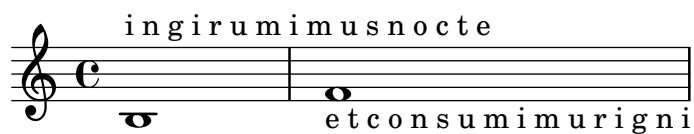
\relative c' {
  a'4^\upline a( c d')_\upline
}

```





}



## Turkish Makam example

This template uses the start of a well-known Turkish *Saz Semai* that is familiar in the repertoire in order to illustrate some of the elements of Turkish music notation.

```

\set-default-paper-size "a6" 'landscape)

```

```

\include "turkish-makam.ly"

```

```

\header {
  title = "Hüseyin Saz Semaisi"
  composer = "Lavtacı Andon"
  tagline = ###
}

```

```

\relative {
  \set Staff.extraNatural = ##f
  \set Staff.autoBeaming = ##f

```

```

  \key a \huseyni
  \time 10/8

```

```

  a'4 g'16[ fb] e8.[ d16] d[ c d e] c[ d c8] bfc |
  a16[ bfc a8] bfc c16[ d c8] d16[ e d8] e4 fb8 |
  d4 a'8 a16[ g fb e] fb8[ g] a8.[ b16] a16[ g] |
  g4 g16[ fb] fb8.[ e16] e[ g fb e] e4 r8 |

```

}

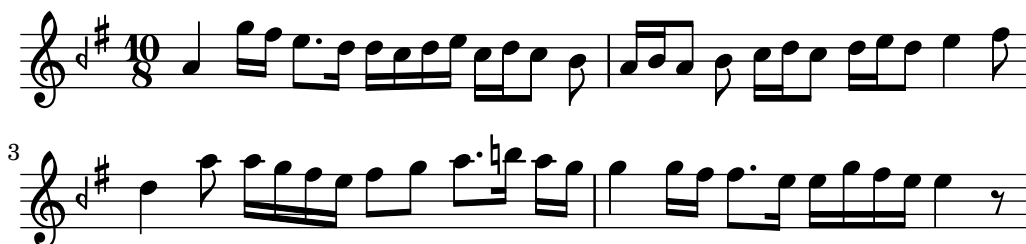
```

\layout {
  indent = 0
}

```

## Hüseyin Saz Semaisi

Lavtacı Andon



## 18 Contexts and engravers

See also Secció “Changing defaults” in *Referencia de la Notación* and Secció “Contexts and engravers” in *Manual de Aprendizaje*.

### Afegir un àmbit per veu

Es pot afegir un àmbit per cada veu. En aquest cas, l'àmbit s'ha de desplaçar manualment per evitar col·lisions.

```
\new Staff <<
  \new Voice \with {
    \consists "Ambitus_engraver"
  } \relative c'' {
    \override Ambitus.X-offset = 2.0
    \voiceOne
    c4 a d e
    f1
  }
  \new Voice \with {
    \consists "Ambitus_engraver"
  } \relative c' {
    \voiceTwo
    es4 f g as
    b1
  }
}>>
```

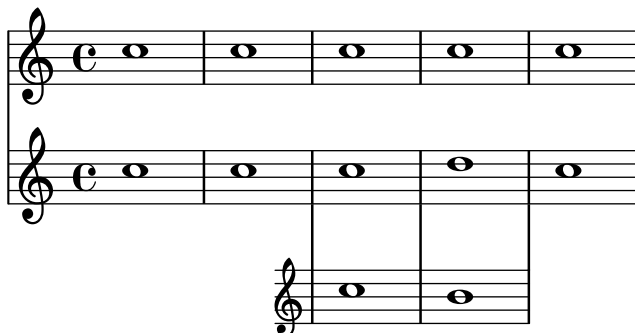


### Afegir un pentagrama nou

Es pot afegir (possiblement de forma temporal) un pentagrama nou un cop la peça ha començat.

```
\score {
  <<
    \new Staff \relative c'' {
      c1 | c | c | c | c
    }
    \new StaffGroup \relative c'' {
      \new Staff {
        c1 | c
      } <<
      { c1 | d }
      \new Staff {
        \once \omit Staff.TimeSignature
        c1 | b
      }
    }
  >>
  c1
}
}
```

```
>>
}
```



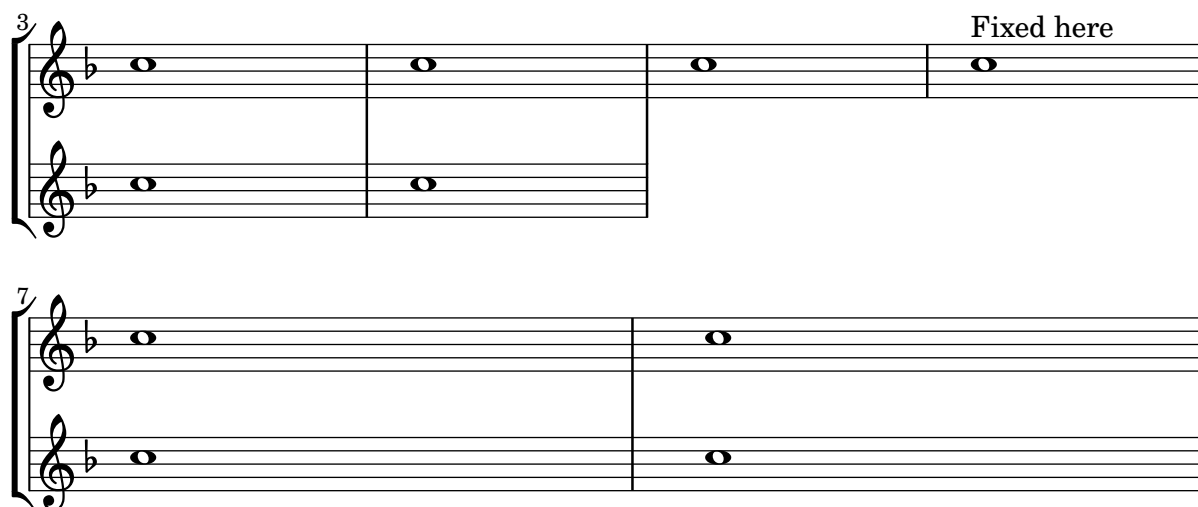
## Afegir un pentagrama addicional a un salt de línia

En afegir un pentagrama nou a un salt de línia, per desgràcia s'afegeix un espai addicional al final de la línia abans del salt (reservat per fer lloc a un canvi d'armadura que de totes formes no s'imprimirà). La solució alternativa és afegir un ajustament per a `Staff.explicitKeySignatureVisibility` com es mostra a l'exemple.

```
\score {
  \new StaffGroup \relative c'' {
    \new Staff
    \key f \major
    c1 c^"Unwanted extra space" \break
    << { c1 | c }
    \new Staff {
      \key f \major
      \once \omit Staff.TimeSignature
      c1 | c
    }
  }
  >>
  c1 | c^"Fixed here" \break
  << { c1 | c }
  \new Staff {
    \once \set Staff.explicitKeySignatureVisibility =
      #end-of-line-invisible
    \key f \major
    \once \omit Staff.TimeSignature
    c1 | c
  }
  >>
}
```







## Afegir barres de compàs al context de noms d'acord (ChordNames)

Per afegir indicacions de línia divisòria dins del context dels noms d'acord ChordNames, incloeu el gravador Bar\_engraver.

```
\new ChordNames \with {
  \override BarLine.bar-extent = #'(-1 . 3)
  \consists "Bar_engraver"
}

\chordmode {
  f1:maj7 f:7 bes:7
}
```

F<sup>Δ</sup> | F<sup>7</sup> | B<sup>b</sup>7 |

## Ambitus after key signature

By default, ambitus are positioned at the left of the clef. The `\ambitusAfter` function allows for changing this placement. Syntax is `\ambitusAfter grob-interface`; see Graphical Object Interfaces (<https://lilypond.org/doc/v2.24/Documentation/internals/graphical-object-interfaces>) for a list of possible values for *`grob-interface`*.

A common use case is printing the ambitus between key signature and time signature.

```
\new Staff \with {
  \consists Ambitus_engraver
} \relative {
  \ambitusAfter key-signature
  \key d \major
  es'8 g bes cis d2
}
```



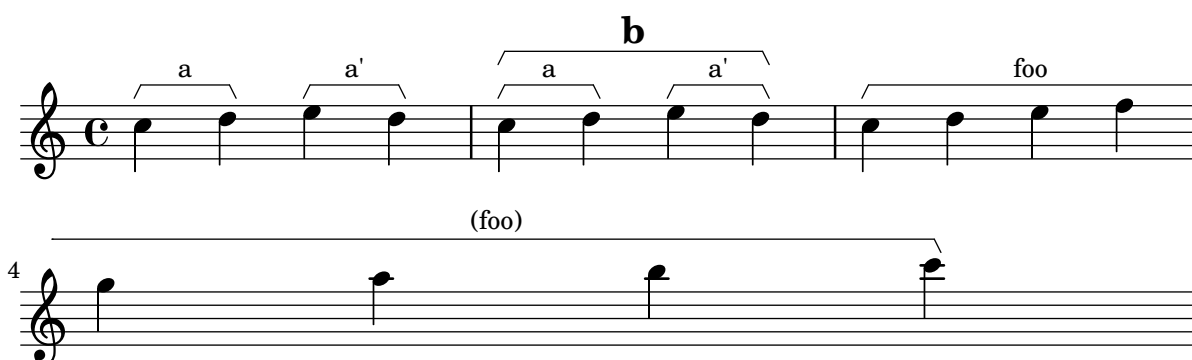
## Analysis brackets with labels

Text markup may be added to analysis brackets using the `text` property of the `HorizontalBracketText` grob. Adding different texts to brackets beginning at the same time requires the `\tweak` command.

Bracket text gets parenthesized after a line break. The vertical order of nested brackets can be controlled with the `outside-staff-priority` property.

```
\layout {
  \context {
    \Voice
    \consists "Horizontal_bracket_engraver"
    \override HorizontalBracket.direction = #UP
  }
}

{
  \once\override HorizontalBracketText.text = "a"
  c''\startGroup d''\stopGroup
  \once\override HorizontalBracketText.text = "a'"
  e''\startGroup d''\stopGroup |
  c''-\tweak outside-staff-priority #801
    \tweak HorizontalBracketText.text
    \markup \bold \huge "b" \startGroup
    -\tweak HorizontalBracketText.text "a" \startGroup
    d''\stopGroup
    e''-\tweak HorizontalBracketText.text "a'" \startGroup
    d''\stopGroup\stopGroup |
  c''-\tweak HorizontalBracketText.text foo \startGroup
    d'' e'' f'' | \break
  g'' a'' b'' c'''\stopGroup
}
```



## Canviar la direcció de la plica de les notes de tercera línia automàticament, basat en la melodia

El LilyPond pot alterar la direcció de la plica de les notes que van en la tercera línia d'un pentagrama de forma que segueixi la melodia, mitjançant l'addició del gravador `Melody_engraver` al context `Voice` i sobreescrivint el valor de `neutral-direction` per a l'objecte `Stem` (plica).

```
\relative c'' {
  \time 3/4
  a8 b g f b g |
```

```

\set suspendMelodyDecisions = ##t
a b g f b g |
\unset suspendMelodyDecisions
c b d c b c |
}

\layout {
  \context {
    \Voice
    \consists "Melody_engraver"
    \autoBeamOff
  }
}

```



## Modificar la sortida MIDI perquè tingui un canal per a cada veu

En produir una sortida MIDI, el comportament predeterminat és que cada pentagrama representa un canal MIDI, amb totes les veus d'aquest pentagrama barrejades. Això redueix al mínim el risc que s'esgoti el nombre de canals MIDI disponibles, atès que hi ha un màxim de 16 canals per cada port MIDI, i la majoria dels dispositius sols tenen un port.

No obstant, quan es trasllada l'interpretador `Staff_performer` al context `Voice`, cada veu d'un pentagrama pot tenir el seu propi canal MIDI, com es mostra a l'exemple següent: malgrat d'estar sobre el mateix pentagrama, es creen dos canals MIDI, cadascú amb un `midiInstrument` diferent.

```

\score {
  \new Staff <<
    \new Voice \relative c''' {
      \set midiInstrument = "flute"
      \voiceOne
      \key g \major
      \time 2/2
      r2 g-"Flute" ~
      g fis ~
      fis4 g8 fis e2 ~
      e4 d8 cis d2
    }
    \new Voice \relative c'' {
      \set midiInstrument = "clarinet"
      \voiceTwo
      b1-"Clarinet"
      a2. b8 a
      g2. fis8 e
      fis2 r
    }
  >>
  \layout { }
  \midi {

```

```

\context {
  \Staff
  \remove "Staff_performer"
}
\context {
  \Voice
  \consists "Staff_performer"
}
\tempo 2 = 72
}
}

```



## Modificar el compàs d'una secció polimètrica utilitzant `\scaleDurations`

La propietat `measureLength`, junt amb `measurePosition`, determina quan cal dibuixar una línia divisòria. No obstant, en utilitzar `\scaleDurations`, l'escalat proporcional de les duracions fa difícil introduir canvis de compàs. En aquest cas s'ha d'establir manualment el valor de `measureLength` utilitzant la funció `ly:make-moment`. El segon argument ha de ser el mateix que el segon argument de `\scaleDurations`.

```

\layout {
  \context {
    \Score
    \remove "Timing_translator"
    \accepts TimingStaffGroup
  }
  \context {
    \StaffGroup
    \name TimingStaffGroup
    \alias StaffGroup
    \consists "Timing_translator"
  }
}

<<
\new TimingStaffGroup <<
  \new Staff {
    \scaleDurations 8/5 {
      \time 6/5 % to set measure length in Timing
      \context Staff \polymetric \time 6/8
      b8 b b b b b
      \time 4/5 % to set measure length in Timing
      \context Staff \polymetric \time 2/4
      b4 b
    }
  }
}
>>

```

```

\new TimingStaffGroup <<
  \new Staff {
    \clef bass
    \time 2/4
    c2 d e f
  }
>>
>>

```



## Crear arpegis entre notes de veus diferents

Es pot dibuixar un símbol d'arpegi entre notes de diferents veus que estan sobre el mateix pentagrama si el gravador `Span_arpeggio_engraver` es trasllada al context de `Staff`:

```

\new Staff \with {
  \consists "Span_arpeggio_engraver"
}
\relative c' {
  \set Staff.connectArpeggios = ##t
  <<
    { <e' g>4\arpeggio <d f> <d f>2 }
    \\\
    { <d, f>2\arpeggio <g b>2 }
  >>
}

```



## Crear pentagrames en blanc

Per crear pentagrames en blanc, genereu compassos buits i després elimineu el gravador de números de compàs `Bar_number_engraver` del context `Score`, i els gravadors de la indicació de compàs `Time_signature_engraver`, de la clau `Clef_engraver` i dels compassos `Bar_engraver` del context de `Staff`.

```

#(set-global-staff-size 10) % for the documentation
% #(set-global-staff-size 20) % for letter and A4

\book {
  \score {
    { \repeat unfold 12 { s1 \break } }

    \layout {
      indent = 0
    }
  }
}

```

```

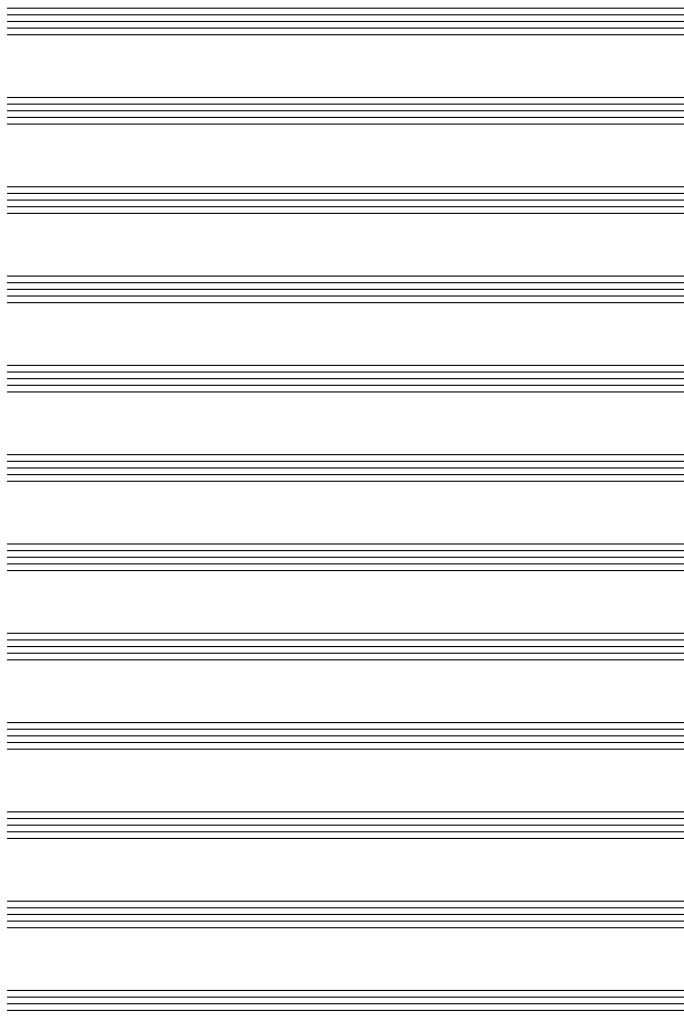
    \context {
      \Staff
      \remove "Time_signature_engraver"
      \remove "Clef_engraver"
      \remove "Bar_engraver"
    }
    \context {
      \Score
      \remove "Bar_number_engraver"
    }
  }
}

% for the documentation
\paper {
  #(set-paper-size "a6")
  ragged-last-bottom = ##f
  line-width = 90\mm
  left-margin = 7.5\mm
  bottom-margin = 5\mm
  top-margin = 5\mm
  tagline = ##f
}

% uncomment these lines for "letter" size
%{
\paper {
  #(set-paper-size "letter")
  ragged-last-bottom = ##f
  line-width = 7.5\in
  left-margin = 0.5\in
  bottom-margin = 0.25\in
  top-margin = 0.25\in
  tagline = ##f
}
%}

% uncomment these lines for "A4" size
%{
\paper {
  #(set-paper-size "a4")
  ragged-last-bottom = ##f
  line-width = 180\mm
  left-margin = 15\mm
  bottom-margin = 10\mm
  top-margin = 10\mm
  tagline = ##f
}
%}
}

```



## Creació d'arpegis que es creuen entre pentagrames dins d'altres contextos

Es poden crear arpegis que es creuen entre pentagrames dins de contextos diferents a `GrandStaff`, `PianoStaff` i `Span_arpeggio_engraver` en el context de `Score`.

```
<<
\new PianoStaff <<
  \new Voice \relative c' {
    <c e>2\arpeggio <d f>2\arpeggio
    <c e>1\arpeggio
  }
  \new Voice \relative c {
    \clef bass
    <c g'>2\arpeggio <b g'>2\arpeggio
    <c g'>1\arpeggio
  }
>>

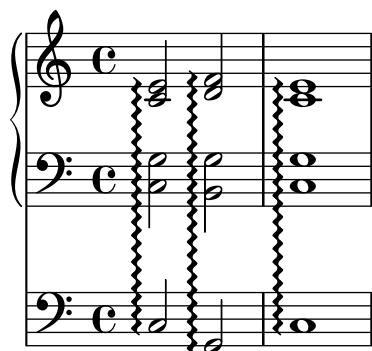
\new Staff \relative c {
  \set Score.connectArpeggios = ##t
  \clef bass
  c2\arpeggio g\arpeggio
```

```

    c1\arpeggio
  }
>>

\layout {
  \context {
    \Score
    \consists "Span_arpeggio_engraver"
  }
}

```



## Creació d'armadures personalitzades

El LilyPond accepta armadures personalitzades. En aquest exemple, es mostra l'armadura de re menor amb una rang estès de bemolls.

```

\new Staff \with {
  \override StaffSymbol.line-count = #8
  \override KeySignature.flat-positions = #'((-7 . 6))
  \override KeyCancellation.flat-positions = #'((-7 . 6))
  \override KeySignature.sharp-positions = #'((-6 . 7))
  \override KeyCancellation.sharp-positions = #'((-6 . 7))

  \override Clef.stencil =
    #(lambda (grob)
      (grob-interpret-markup grob
        #{ \markup\combine
          \musicglyph "clefs.C"
          \translate #'(-3 . -2)
          \musicglyph "clefs.F"
        }
      ))
    clefPosition = #3
    middleCPosition = #3
    middleCClefPosition = #3
}

{
  \key d\minor f bes, f bes, |
  \key d\major fis b, fis b, |
}

```





## Pliques de pentagrama creuat

Aquest fragment de codi mostra l'ús del gravador `Span_stem_engraver` i de `\crossStaff` per connectar automàticament pliques d'un pentagrama a un altre. No cal especificar la longitud de la plica perquè la distància variable entre els caps de les notes i els pentagrames es calcula automàticament.

```
\layout {
  \context {
    \PianoStaff
    \consists "Span_stem_engraver"
  }
}

\new PianoStaff <<
  \new Staff {
    <b d'>4 r d'16\> e'8. g8 r\! |
    e'8 f' g'4
    \voiceTwo
    % Down to lower staff
    \crossStaff { e'8 e'8 } e'4 |
  }

  \new Staff {
    \clef bass
    \voiceOne
    % Up to upper staff
    \crossStaff { <e g>4 e, g16 a8. c8 } d |
    g8 f g4 \voiceTwo g8 g g4 |
  }
}>>
```



## Definir un gravador en l'Scheme: gravador d'àmbit o tessitura

Aquest exemple mostra com pot definir-se el gravador d'àmbit o tessitura a l'espai de l'usuari, com un gravador de l'Scheme.

Això és bàsicament una reescriptura en l'Scheme del codi de `lily/ambitus-engraver.cc`.

```
#(use-modules (oop goops))
```

```
%%%
%%% Grob utilities
```

```

%%%
%%% These are literal rewrites of some C++ methods used by the ambitus
%%% engraver.

#(define (ly:separation-item::add-conditional-item grob grob-item)
  "Add GROB-ITEM to the array of conditional elements of GROB.

This is a rewrite of function `Separation_item::add_conditional_item` from
file `lily/separation-item.cc`."
  (ly:pointer-group-interface::add-grob
    grob 'conditional-elements grob-item))

#(define (ly:accidental-placement::accidental-pitch accidental-grob)
  "Get the pitch from the grob cause of ACCIDENTAL-GROB.

This is a rewrite of function `accidental_pitch` from file
`lily/accidental-placement.cc`."
  (ly:event-property (ly:grob-property
    (ly:grob-parent accidental-grob Y) 'cause)
    'pitch))

#(define (ly:accidental-placement::add-accidental grob accidental-grob)
  "Add ACCIDENTAL-GROB to the list of accidentals grobs of GROB.
  ACCIDENTAL-GROB is an `Accidental` grob; GROB is an `AccidentalPlacement`
  grob.

This is a rewrite of function `Accidental_placement::add_accidental` from
file `lily/accidental-placement.cc`."
  (let ((pitch (ly:accidental-placement::accidental-pitch
    accidental-grob)))
    (set! (ly:grob-parent accidental-grob X) grob)
    (let* ((accidentals (ly:grob-object grob 'accidental-grobs))
      (handle (assq (ly:pitch-notename pitch) accidentals))
      (entry (if handle (cdr handle) '())))
      (set! (ly:grob-object grob 'accidental-grobs)
        (assq-set! accidentals
          (ly:pitch-notename pitch)
          (cons accidental-grob entry))))))

%%%
%%% Ambitus data structures.
%%%

%%% The <ambitus> class holds the various grobs that are created to
%%% print an ambitus:
%%%
%%% - `ambitus-group`: the grob that groups all the components of an
%%%   ambitus (Ambitus grob);
%%% - `ambitus-line`: the vertical line between the upper and lower
%%%   ambitus notes (AmbitusLine grob);
%%% - `ambitus-up-note` and `ambitus-down-note`: the note head and
%%%   accidental for the lower and upper note of the ambitus (see

```

```

%%%  `<ambitus-note>` class below).
%%%
%%% The other slots define the key and clef context of the engraver:
%%%
%%% - `start-c0`: position of middle c at the beginning of the piece.
%%%   It is used to place the ambitus notes according to their pitch;
%%% - `start-key-sig`: the key signature at the beginning of the
%%%   piece. It is used to determine whether accidentals shall be
%%%   printed next to ambitus notes.

#(define-class <ambitus> ()
  (ambitus-group #:accessor ambitus-group)
  (ambitus-line #:accessor ambitus-line)
  (ambitus-up-note #:getter ambitus-up-note
    #:init-form (make <ambitus-note>))
  (ambitus-down-note #:getter ambitus-down-note
    #:init-form (make <ambitus-note>))
  (start-c0 #:accessor ambitus-start-c0
    #:init-value #f)
  (start-key-sig #:accessor ambitus-start-key-sig
    #:init-value '()))

%%% Accessor for the lower and upper note data of an ambitus.
#(define-method (ambitus-note (ambitus <ambitus>) direction)
  "Return lower or upper note of AMBITUS depending on DIRECTION."
  (if (= direction UP)
    (ambitus-up-note ambitus)
    (ambitus-down-note ambitus)))

%%% The `<ambitus-note>` class holds the grobs that are specific to
%%% ambitus (lower and upper) notes:
%%%
%%% - `head`: an `AmbitusNoteHead` grob;
%%% - `accidental`: an `AmbitusAccidental` grob, to be possibly
%%%   printed next to the ambitus note head.
%%%
%%% Moreover,
%%%
%%% - `pitch` is the absolute pitch of the note;
%%% - `cause` is the note event that causes this ambitus note, i.e.,
%%%   the lower or upper note of the considered music sequence.

#(define-class <ambitus-note> ()
  (head #:accessor ambitus-note-head
    #:init-value #f)
  (accidental #:accessor ambitus-note-accidental
    #:init-value #f)
  (cause #:accessor ambitus-note-cause
    #:init-value #f)
  (pitch #:accessor ambitus-note-pitch
    #:init-value #f))

```

```

%%%
%%% Ambitus engraving logic.
%%%
%%% This is rewrite of the code from file `lily/ambitus-engraver.cc`.

```

```

#(define (make-ambitus translator)
  "Build an ambitus object: initialize all the grobs and their
  relations.

```

The `Ambitus` grob contains all other grobs:

```

Ambitus
|- AmbitusLine
|- AmbitusNoteHead    for upper note
|- AmbitusAccidental  for upper note
|- AmbitusNoteHead    for lower note
|- AmbitusAccidental  for lower note

```

The parent of an accidental is the corresponding note head, and the accidental is set as the `accidental-grob` property of the note head so that is printed by the function that prints notes."

```

;; Make the ambitus object.
(let ((ambitus (make <ambitus>)))
  ;; Build the `Ambitus` grob, which will contain all other grobs.
  (set! (ambitus-group ambitus)
    (ly:engraver-make-grob translator 'Ambitus '()))
  ;; Build the `AmbitusLine` grob (the line between lower and upper
  ;; note).
  (set! (ambitus-line ambitus)
    (ly:engraver-make-grob translator 'AmbitusLine '()))
  ;; Build the upper and lower `AmbitusNoteHead` and
  ;; `AmbitusAccidental`.
  (for-each
    (lambda (direction)
      (let ((head (ly:engraver-make-grob translator
        'AmbitusNoteHead '()))
        (accidental (ly:engraver-make-grob translator
        'AmbitusAccidental '())))
        (group (ambitus-group ambitus)))
      ;; The parent of the `AmbitusAccidental` grob is the
      ;; `AmbitusNoteHead` grob.
      (set! (ly:grob-parent accidental Y) head)
      ;; The `AmbitusAccidental` grob is set as the
      ;; `accidental-grob` object of `AmbitusNoteHead`. This is
      ;; later used by the function that prints notes.
      (set! (ly:grob-object head 'accidental-grob) accidental)
      ;; Both the note head and the accidental grobs are added to
      ;; the main ambitus grob.
      (ly:axis-group-interface::add-element group head)
      (ly:axis-group-interface::add-element group accidental)
      ;; The note head and the accidental grobs are added to the
      ;; ambitus object.

```

```
(set! (ambitus-note-head (ambitus-note ambitus direction))
      head)
(set! (ambitus-note-accidental (ambitus-note ambitus direction))
      accidental)))
(list DOWN UP))

;; The parent of the ambitus line is the lower ambitus note head.
(set! (ly:grob-parent (ambitus-line ambitus) X)
      (ambitus-note-head (ambitus-note ambitus DOWN)))
;; The ambitus line is added to the ambitus main grob.
(ly:axis-group-interface::add-element (ambitus-group ambitus)
                                       (ambitus-line ambitus))
ambitus))

#(define-method (initialize-ambitus-state
                 (ambitus <ambitus>) translator)
  "Initialize the state of AMBITUS by getting the starting position of
middle C and key signature from TRANSLATOR's context."
  (if (not (ambitus-start-c0 ambitus))
      (begin
        (set! (ambitus-start-c0 ambitus)
              (ly:context-property (ly:translator-context translator)
                                  'middleCPosition 0))
        (set! (ambitus-start-key-sig ambitus)
              (ly:context-property (ly:translator-context translator)
                                  'keyAlterations))))))

#(define-method (update-ambitus-notes (ambitus <ambitus>) note-grob)
  "Update upper and lower ambitus pitches of AMBITUS using NOTE-GROB."
  ;; Get the event that caused the `note-grob` creation and check
  ;; that it is a `note-event`.
  (let ((note-event (ly:grob-property note-grob 'cause)))
    (if (ly:in-event-class? note-event 'note-event)
        ;; Get the pitch from the note event.
        (let ((pitch (ly:event-property note-event 'pitch)))
          ;; If this pitch is lower than the current ambitus' lower
          ;; note pitch (or it has not been initialized yet), then
          ;; this pitch is the new ambitus' lower pitch. The same is
          ;; done for the upper pitch (but in the opposite
          ;; direction).
          (for-each
           (lambda (direction pitch-compare)
             (if (or (not (ambitus-note-pitch
                           (ambitus-note ambitus direction)))
                     (pitch-compare
                      pitch (ambitus-note-pitch
                             (ambitus-note ambitus direction)))))
               (begin
                (set! (ambitus-note-pitch
                      (ambitus-note ambitus direction))
                    pitch)
                (set! (ambitus-note-cause
```

```

        (ambitus-note ambitus direction))
      note-event))))
  (list DOWN UP)
  (list ly:pitch<?
    (lambda (p1 p2) (ly:pitch<? p2 p1)))))))))

#(define-method (typeset-ambitus (ambitus <ambitus>) translator)
  "Typeset AMBITUS.

- Place the lower and upper ambitus notes according to their pitch and
  the position of the middle C.
- Typeset or delete the note accidentals, according to the key
  signature. An accidental, if it is to be printed, is added to an
  `AccidentalPlacement` grob (a grob dedicated to the placement of
  accidentals near a chord).
- Both note heads are added to the ambitus line grob so that a line
  gets printed between them."
  ;; Check whether there are lower and upper pitches.
  (if (and (ambitus-note-pitch (ambitus-note ambitus UP))
    (ambitus-note-pitch (ambitus-note ambitus DOWN)))
    ;; Make an `AccidentalPlacement` grob, for placement of note
    ;; accidentals.
    (let ((accidental-placement
      (ly:engraver-make-grob
        translator
        'AccidentalPlacement (ambitus-note-accidental
          (ambitus-note ambitus DOWN)))))
      ;; For lower and upper ambitus notes.
      (for-each
        (lambda (direction)
          (let ((pitch (ambitus-note-pitch
            (ambitus-note ambitus direction))))
            ;; Set the cause and the staff position of the ambitus
            ;; note according to the associated pitch.
            (set! (ly:grob-property
              (ambitus-note-head (ambitus-note ambitus direction))
              'cause)
              (ambitus-note-cause (ambitus-note ambitus direction)))
            (set! (ly:grob-property
              (ambitus-note-head (ambitus-note ambitus direction))
              'staff-position)
              (+ (ambitus-start-c0 ambitus)
                (ly:pitch-steps pitch)))
            ;; Determine whether an accidental shall be printed for
            ;; this note, according to the key signature.
            (let* ((handle
              (or (assoc (cons (ly:pitch-octave pitch)
                (ly:pitch-notename pitch))
                (ambitus-start-key-sig ambitus))
                (assoc (ly:pitch-notename pitch)
                (ambitus-start-key-sig ambitus)))))
              (sig-alter (if handle (cdr handle) 0)))

```

```

(cond
  ((= (ly:pitch-alteration pitch) sig-alter)
   ;; The note alteration is in the key signature
   ;; => it does not have to be printed.
   (ly:grob-suicide! (ambitus-note-accidental
                     (ambitus-note ambitus direction)))
   (set! (ly:grob-object (ambitus-note-head
                         (ambitus-note ambitus direction))
                     'accidental-grob)
         '()))
  (else
   ;; Otherwise the accidental shall be printed.
   (set! (ly:grob-property
         (ambitus-note-accidental
          (ambitus-note ambitus direction)) 'alteration)
         (ly:pitch-alteration pitch))))
;; Add the `AccidentalPlacement` grob to the conditional
;; items of the `AmbitusNoteHead`.
(ly:separation-item::add-conditional-item
 (ambitus-note-head (ambitus-note ambitus direction))
 accidental-placement)
;; Add the `AmbitusAccidental` to the list of the
;; `AccidentalPlacement` grob accidentals.
(ly:accidental-placement::add-accidental
 accidental-placement
 (ambitus-note-accidental (ambitus-note ambitus direction)))
;; Add the `AmbitusNoteHead` grob to the `AmbitusLine` grob.
(ly:pointer-group-interface::add-grob
 (ambitus-line ambitus)
 'note-heads
 (ambitus-note-head (ambitus-note ambitus direction))))
(list DOWN UP))
;; Add the `AccidentalPlacement` grob to the main `Ambitus` grob.
(ly:axis-group-interface::add-element
 (ambitus-group ambitus) accidental-placement))
;; No lower and upper pitches => nothing to print.
(begin
  (for-each
   (lambda (direction)
    (ly:grob-suicide! (ambitus-note-accidental
                      (ambitus-note ambitus direction)))
    (ly:grob-suicide! (ambitus-note-head
                      (ambitus-note ambitus direction))))
   (list DOWN UP))
  (ly:grob-suicide! ambitus-line)))

%%%
%%% Ambitus engraver definition.
%%%
#(define ambitus-engraver
  (lambda (context)
    (let ((ambitus #f))

```

```

;; When music is processed, make the ambitus object if not
;; already built.
(make-engraver
  ((process-music translator)
   (if (not ambitus)
       (set! ambitus (make-ambitus translator))))

;; Set the ambitus clef and key signature state.
((stop-translation-timestep translator)
 (if ambitus
     (initialize-ambitus-state ambitus translator)))

;; When a note head grob is built, update the ambitus notes.
(acknowledgers
  ((note-head-interface engraver grob source-engraver)
   (if ambitus
       (update-ambitus-notes ambitus grob))))

;; Finally, typeset the ambitus according to its upper and
;; lower notes (if any).
((finalize translator)
 (if ambitus
     (typeset-ambitus ambitus translator))))))

%%%
%%% Example
%%%

```

```

\score {
  \new StaffGroup <<
    \new Staff { c'4 des' e' fis' gis' }
    \new Staff { \clef "bass" c4 des ~ des ees b, }
  >>
  \layout { \context { \Staff \consists #ambitus-engraver } }
}

```



## Mostrar un sistema GrandStaff complet si segueix amb vida un sol dels seus pentagrames

A vegades, a les partitures orquestrals es deixen en silenci instruments individuals o grups d'ells durant un període de temps, i els seus pentagrames corresponents es poden suprimir durant aquest temps (amb `\removeEmptyStaves`).

Quan tornen a sonar, sovint es prefereix mostrar tots els instruments del grup. Això es pot fer afegint el gravador `Keep_alive_together_engraver` en el context agrupador (per exemple: un `GrandStaff` o un `StaffGroup`).



En aquest exemple, els violins estan en silenci durant els sistemes segon i tercer. Sols el violí primer sona a l'últim compàs, però es mostra també el pentagrama del violí segon.

```
\score {
  <<
    \new Staff = "Staff_flute" \with {
      instrumentName = "Flute"
      shortInstrumentName = "Fl"
    } \relative c' {
      \repeat unfold 3 { c'4 c c c | c c c c | c c c c | \break }
    }

    \new StaffGroup = "StaffGroup_Strings" <<
      \new GrandStaff = "GrandStaff_violins" <<
        \new Staff = "StaffViolinI" \with {
          instrumentName = "Violin I"
          shortInstrumentName = "Vi I"
        } \relative c'' {
          a1 | R1*7 | \repeat unfold 12 a16 a4 |
        }
        \new Staff = "StaffViolinII" \with {
          instrumentName = "Violin II"
          shortInstrumentName = "Vi II"
        } \relative c' {
          e1 | R1*8 |
        }
      >>

      \new Staff = "Staff_cello" \with {
        instrumentName = "Cello"
        shortInstrumentName = "Ce"
      } \relative c {
        \clef bass \repeat unfold 9 { c1 } |
      }
    >>
  >>
}

\layout {
  indent = 3.0\cm
  short-indent = 1.5\cm

  \context {
    \GrandStaff
    \consists Keep_alive_together_engraver
  }
  \context {
    \Staff
    \RemoveEmptyStaves
  }
}
```

The image shows a musical score with three systems of staves. The first system includes Flute, Violin I, Violin II, and Cello. The second system includes Flute and Cello. The third system includes Flute, Violin I, Violin II, and Cello. The score illustrates the activation of engravers for different instruments across systems.

## Els gravadors, un per un

Del problema central de la notació, és a dir, crear un determinat símbol, s'encarreguen els «plugins» o complements afegits. Cada un dels complements es coneix com un gravador. A aquest exemple els gravadors es van activant un per un, a l'ordre següent:

- cap de les notes,
- el símbol del pentagrama,
- clau,
- pliques,
- barres, lligadures d'expressió, accents,
- alteracions, línies divisòries, indicació del compàs, i armadura.

Els gravadors es troben agrupats. Per exemple, els caps de nota, les lligadures d'expressió, les barres de corxera, etc., formen un context de veu Voice. Els gravadors de l'armadura, alteracions línies de compàs, etc., formen un context de pentagrama Staff.

```
topVoice = \relative c' {
```

```

\key d \major
es8([ g] a[ fis])
b4
b16[-. b-. b-. cis-.]
d4->
}

% empty staff and voice contexts
MyStaff = \context {
  \type Engraver_group
  \name Staff
  \accepts Voice
  \defaultchild Voice
}
MyVoice = \context {
  \type Engraver_group
  \name Voice
}

% add note heads
MyVoice = \context {
  \MyVoice
  \consists Note_heads_engraver
}
\score {
  \topVoice
  \layout {
    \context { \MyStaff }
    \context { \MyVoice }
  }
}

% add staff
MyStaff = \context {
  \MyStaff
  \consists Staff_symbol_engraver
}
\score {
  \topVoice
  \layout {
    \context { \MyStaff }
    \context { \MyVoice }
  }
}

% add clef
MyStaff = \context {
  \MyStaff
  \consists Clef_engraver
}
\score {
  \topVoice

```

```

\layout {
  \context { \MyStaff }
  \context { \MyVoice }
}

% add stems
MyVoice = \context {
  \MyVoice
  \consists Stem_engraver
}

\score {
  \topVoice
  \layout {
    \context { \MyStaff }
    \context { \MyVoice }
  }
}

% add beams, slurs, and accents
MyVoice = \context {
  \MyVoice
  \consists Beam_engraver
  \consists Slur_engraver
  \consists Script_engraver
  \consists Rhythmic_column_engraver
}

\score {
  \topVoice
  \layout {
    \context { \MyStaff }
    \context { \MyVoice }
  }
}

% add accidentals, bar, time signature, and key signature
MyStaff = \context {
  \MyStaff
  \consists Accidental_engraver
  \consists Bar_engraver
  \consists Time_signature_engraver
  \consists Key_engraver
}

\score {
  \topVoice
  \layout {
    \context { \MyStaff }
    \context { \MyVoice }
  }
}

```



## Línies de reixeta: modificar el seu aspecte

Es pot canviar l'aspecte de les línies de reixeta sobreescrivint algunes de les seves propietats.

```
\new ChoirStaff <<
  \new Staff {
    \relative c'' {
      \stemUp
      c'4. d8 e8 f g4
    }
  }
  \new Staff {
    \relative c {
      % this moves them up one staff space from the default position
      \override Score.GridLine.extra-offset = #'(0.0 . 1.0)
      \stemDown
      \clef bass
      \once \override Score.GridLine.thickness = 5.0
      c4
      \once \override Score.GridLine.thickness = 1.0
      g'4
      \once \override Score.GridLine.thickness = 3.0
      f4
      \once \override Score.GridLine.thickness = 5.0
      e4
    }
  }
>>

\layout {
  \context {
    \Staff
    % set up grids
    \consists "Grid_point_engraver"
```

```

% set the grid interval to one quarter note
gridInterval = #1/4
}
\context {
  \Score
  \consists "Grid_line_span_engraver"
  % this moves them to the right half a staff space
  \override NoteColumn.X-offset = -0.5
}
}

```



## Línies de reixeta: destacar ritmes i la relació temporal entre notes

Es poden traçar línies verticals normals entre pentagrames per mostrar la relació entre notes; malgrat això, en cas de música monofònica, podem fer invisible el segon pentagrama, i que les línies siguin més curtes, com en aquest fragment de codi.

```

\new ChoirStaff {
  \relative c'' <<
  \new Staff {
    \time 12/8
    \stemUp
    c4. d8 e8 f g4 f8 e8. d16 c8
  }
  \new Staff {
    % hides staff and notes so that only the grid lines are visible
    \hideNotes
    \hide Staff.BarLine
    \override Staff.StaffSymbol.line-count = #0
    \hide Staff.TimeSignature
    \hide Staff.Clef

    % dummy notes to force regular note spacing
    \once \override Score.GridLine.thickness = #4.0
    c8 c c
    \once \override Score.GridLine.thickness = #3.0
    c8 c c
    \once \override Score.GridLine.thickness = #4.0
    c8 c c
    \once \override Score.GridLine.thickness = #3.0
    c8 c c
  }
}
>>

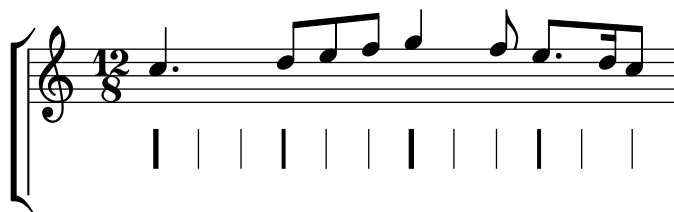
```

```

}

\layout {
  \context {
    \Score
    \consists "Grid_line_span_engraver"
    % center grid lines horizontally below note heads
    \override NoteColumn.X-offset = #-0.5
  }
  \context {
    \Staff
    \consists "Grid_point_engraver"
    gridInterval = #1/8
    % set line length and positioning:
    % two staff spaces above center line on hidden staff
    % to four spaces below center line on visible staff
    \override GridPoint.Y-extent = #'(2 . -4)
  }
}

```



## Measure counters

This snippet demonstrates the use of the `Measure_counter_engraver` to number groups of successive measures. Any stretch of measures may be numbered, whether consisting of repetitions or not.

The engraver must be added to the appropriate context. Here, a `Staff` context is used; another possibility is a `Dynamics` context.

The counter is begun with `\startMeasureCount` and ended with `\stopMeasureCount`. Numbering will start by default with 1, but this behavior may be modified by overriding the `count-from` property.

When a measure extends across a line break, the number will appear twice, the second time in parentheses.

```

\layout {
  \context {
    \Staff
    \consists #Measure_counter_engraver
  }
}

\new Staff {
  \startMeasureCount
  \repeat unfold 7 {
    c'4 d' e' f'
  }
}

```

The image displays the musical notation for the 'Seven Steps' exercise, organized into three staves. The first staff contains measures 1 through 7, the second staff contains measures 8 through 14, and the third staff contains measures 15 through 21. Each measure is numbered above the staff. The notation consists of eighth notes and rests, with a key signature of one flat (Bb) and a common time signature (C). The exercise is presented in a clear, black-and-white format suitable for educational purposes.

Measure spanners are an alternate way to print annotated brackets. As opposed to horizontal brackets, they extend between two bar lines rather than two notes. The text is displayed in the center of the bracket.

```

\layout {
  \context {
    \Staff
    \consists Measure_spanner_engraver
  }
}

<<
\new Staff \relative c' {
  \key d \minor
  R1*2
  \tweak text "Answer"
  \startMeasureSpanner
  \tuplet 3/2 8 {
    a16[ b c] d[ c b]   c[ d e] f[ e d]
  }
  e8 a gis g
  fis f e d~ d c b e
}

```



```

\stopMeasureSpanner
}
\new Staff \relative c' {
  \key d \minor
  \tweak text "Subject"
    \tweak direction #DOWN
    \startMeasureSpanner
  \tuplet 3/2 8 {
    d16[ e f] g[ f e] f[ g a] bes[ a g]
  }
  a8 d cis c
  b bes a g~ g f e a
  \stopMeasureSpanner
  \tweak text "Counter-subject"
    \tweak direction #DOWN
    \startMeasureSpanner
  f8 e a r r16 b, c d e fis g e
  a gis a b c fis, b a gis e a4 g8
  \stopMeasureSpanner
}
>>

```

The image displays a musical score with three staves. The top staff is empty. The middle staff, labeled "Subject", contains a melody with triplets. The bottom staff, labeled "Counter-subject", contains a counter-melody with triplets. The key signature is one flat (B-flat) and the time signature is common time (C).

## Disposició Mensurstriche (línies divisòries entre pentagrames)

La disposició «mensurstriche» en els quals les línies divisòries no estan dibuixades sobre els pentagrames, sinó entre ells, es pot aconseguir amb un `StaffGroup` en comptes d'un `ChoirStaff`. La línia divisòria sobre els pentagrames s'esborra usant `\hide`.

```

\layout {
  \context {
    \Staff
    measureBarType = "-span|"
  }
}

music = \fixed c'' {

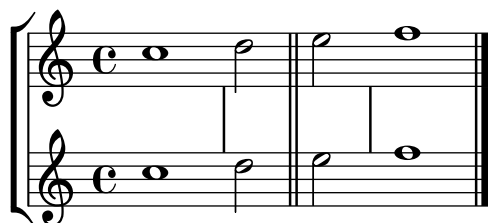
```

```

c1
d2 \section e2
f1 \fine
}

\new StaffGroup <<
  \new Staff \music
  \new Staff \music
>>

```



## Niuat de grups de pentagrames

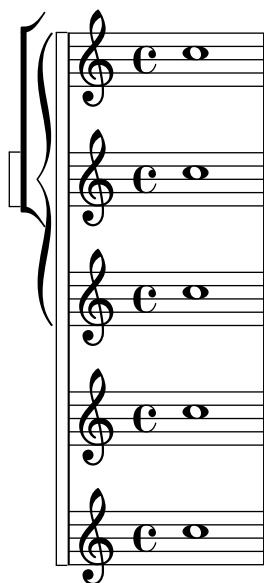
Es pot utilitzar la propietat `systemStartDelimiterHierarchy` per crear grups de pentagrames niuats de forma més complexa. L'ordre `\set StaffGroup.systemStartDelimiterHierarchy` pren una llista alfabètic del nombre de pentagrames produïts. Es pot proporcionar abans de cada pentagrama un delimitador de començament del sistema. Es pot envoltar entre corxets i admetre tants pentagrames com envoltin els corxets. Es poden ometre els elements de la llista, però el primer corxet sempre abasta tots els pentagrames. Les possibilitats són `SystemStartBar`, `SystemStartBracket`, `SystemStartBrace` i `SystemStartSquare`.

```

\new StaffGroup
\relative c' ' <<
  \override StaffGroup.SystemStartSquare.collapse-height = 4
  \set StaffGroup.systemStartDelimiterHierarchy
    = #'(SystemStartSquare
          (SystemStartBrace
            (SystemStartBracket a
              (SystemStartSquare b))
            c)
          d)

  \new Staff { c1 }
  \new Staff { c1 }
  \new Staff { c1 }
  \new Staff { c1 }
  \new Staff { c1 }
>>

```



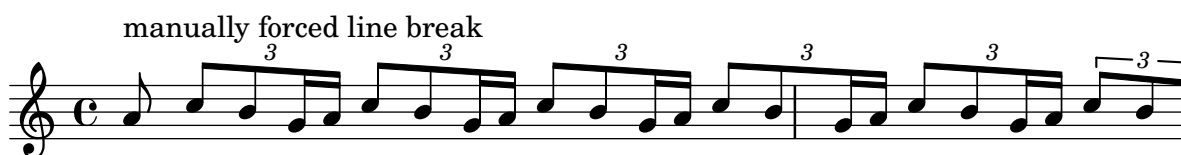
## Permetre salts de línia dins de grups especials amb barra

Aquest exemple artificial mostra com es poden permetre tant els salts de línia manuals com els automàtics dins d'un grup de valoració especial unit per una barra. Observeu que aquests grups sincopats s'han de barrar manualment.

```
\layout {
  \context {
    \Voice
    % Permit automatic line breaks within tuplets.
    \remove "Forbid_line_break_engraver"
    % Allow beams to be broken at line breaks.
    \override Beam.breakable = ##t
  }
}

\relative c' {
  <>^"manually forced line break"
  a8
  \repeat unfold 5 { \tuplet 3/2 { c8[ b g16 a] } }
  \tuplet 3/2 { c8[ b \break g16 a] }
  \repeat unfold 5 { \tuplet 3/2 { c8[ b g16 a] } }
  c8 \bar "||"
}

\relative c' {
  <>^"automatic line break"
  \repeat unfold 28 a16
  \tuplet 11/8 { a16[ b c d e f e d c b a] }
  \repeat unfold 28 a16 \bar "||"
}
```





## Print chord names with same root and different bass as slash and bass note

To print subsequent ChordNames only differing in its bass note as slash and bass note, use the Scheme engraver defined in this snippet. The behaviour may be controlled in detail by the chordChanges context property.

```
#(define Bass_changes_equal_root_engraver
  (lambda (ctx)
    "For sequential `ChordNames` with the same root but a different bass,
    the root markup is dropped: D D/C D/B -> D /C /B.
    The behaviour may be controlled by setting the `chordChanges` context
    property."
    (let ((chord-pitches '())
          (last-chord-pitches '())
          (bass-pitch #f))
      (make-engraver
        ((initialize this-engraver)
         (let ((chord-note-namer (ly:context-property ctx
                                                    'chordNoteNamer)))
           ;; Set 'chordNoteNamer, respect user setting if already done
           (ly:context-set-property! ctx 'chordNoteNamer
                                     (if (procedure? chord-note-namer)
                                         chord-note-namer
                                         note-name->markup))))
        (listeners
         ((note-event this-engraver event)
          (let* ((pitch (ly:event-property event 'pitch))
                 (pitch-name (ly:pitch-notename pitch))
                 (pitch-alt (ly:pitch-alteration pitch))
                 (bass (ly:event-property event 'bass #f))
                 (inversion (ly:event-property event 'inversion #f)))
            ;; Collect notes of the chord
            ;; - to compare inversed chords we need to collect the
            ;;   bass note as usual member of the chord, whereas an
            ;;   added bass must be treated separate from the usual
            ;;   chord-notes
            ;; - notes are stored as pairs containing their
            ;;   pitch-name (an integer), i.e. disregarding their
```

```

;; octave and their alteration
(cond (bass (set! bass-pitch pitch))
      (inversion
       (set! bass-pitch pitch)
       (set! chord-pitches
        (cons (cons pitch-name pitch-alt)
              chord-pitches)))
      (else
       (set! chord-pitches
        (cons (cons pitch-name pitch-alt)
              chord-pitches))))))

(acknowledgers
 ((chord-name-interface this-engraver grob source-engraver)
  (let ((chord-changes (ly:context-property ctx
                                           'chordChanges #f)))
    ;; If subsequent chords are equal apart from their bass,
    ;; reset the 'text-property.
    ;; Equality is done by comparing the sorted lists of this
    ;; chord's elements and the previous chord. Sorting is
    ;; needed because inverted chords may have a different
    ;; order of pitches. `chord-changes` needs to be true.
    (if (and bass-pitch
              chord-changes
              (equal?
               (sort chord-pitches car<)
               (sort last-chord-pitches car<)))
        (ly:grob-set-property!
         grob 'text
         (make-line-markup
          (list
           (ly:context-property ctx 'slashChordSeparator)
           ((ly:context-property ctx 'chordNoteNamer)
            bass-pitch
            (ly:context-property ctx
                                'chordNameLowercaseMinor))))))
        (set! last-chord-pitches chord-pitches)
        (set! chord-pitches '())
        (set! bass-pitch #f))))

((finalize this-engraver)
 (set! last-chord-pitches '()))))

myChords = \chordmode {
  % \germanChords

  \set chordChanges = ##t
  d2:m d:m/cis

  d:m/c
  \set chordChanges = ##f

```

```

d:m/b

e1:7
\set chordChanges = ##t
e
\break

\once \set chordChanges = ##f
e1/f
e2/gis e/+gis e e:m/f d:m d:m/cis d:m/c
\set chordChanges = ##f
d:m/b
}

<<
\new ChordNames
  \with { \consists #Bass_changes_equal_root_engraver }
  \myChords
\new Staff \myChords
>>

```

The image displays a musical score for two staves. The first staff contains six measures with the following chords: Dm, /C#, /C, Dm/B, E<sup>7</sup>, and E. The second staff, which begins at measure 5, contains eight measures with the following chords: E/F, /G#, E, Em/F, Dm, /C#, /C, and Dm/B. The chords are represented by block chords on a grand staff.

## Impressió de marques d'assaig en qualsevol pentagrama

Tot i que normalment les marques d'assaig textuais sols s'imprimeixen sobre el pentagrama superior, també es poden imprimir en un altra pentagrama qualsevol.

```

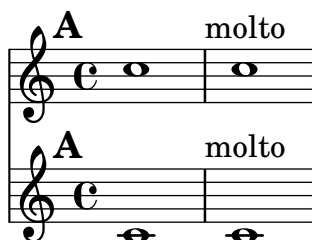
\score {
  <<
    \new Staff { \mark \default c''1 \textMark "molto" c'' }
    \new Staff { \mark \default c'1 \textMark "molto" c' }
  >>
  \layout {
    \context {
      \Score
      \remove Mark_engraver
      \remove Text_mark_engraver
      \remove Staff_collecting_engraver
    }
    \context {
      \Staff
      \consists Mark_engraver
      \consists Text_mark_engraver
    }
  }
}

```

```

    \consists Staff_collecting_engraver
  }
}

```



## Impressió de música que tingui compassos en cada pentagrama

En el següent fragment de codi, dues parts diferents tenen un compàs completament diferent i malgrat això es mantenen sincronitzades. Les barres de compàs ja no es poden imprimir en el nivell de Score; per permetre barres de compàs independents en cada part es tralladen els gravadores `Default_barline_engraver` i `Timing_translator` des del context de partitura Score fins el context de pentagrama Staff.

Si calen nombres de compàs, el gravador de nombres de compàs `Bar_number_engraver` també s'ha de traslladar, ja que descansa en propietat fixades pel `Timing_translator`; es pot usar un bloc `\with` per afegir nombres de compàs al pentagrama apropiat.

```

global = {
  \time 3/4 s2.*3 \break
  s2.*3
}

\layout {
  \context {
    \Score
    \remove "Timing_translator"
    \remove "Bar_number_engraver"
    \override SpacingSpanner.uniform-stretching = ##t
    \override SpacingSpanner.strict-note-spacing = ##t
    proportionalNotationDuration = #1/64
  }
  \context {
    \Staff
    \consists "Timing_translator"
  }
  \context {
    \Voice
    \remove "Forbid_line_break_engraver"
    tupletFullLength = ##t
  }
}

Bassklarinette = \new Staff \with {
  \consists "Bar_number_engraver"
  barNumberVisibility = #(every-nth-bar-number-visible 2)
  \override BarNumber.break-visibility = #end-of-line-invisible

```

```

} <<
\global
{
  \clef treble
  \time 3/8 d''4. |
  \time 3/4 r8 des''2( c''8) |
  \time 7/8 r4. ees''2 ~ |
  \time 2/4 \tupletUp \tuplet 3/2 { ees''4 r4 d''4 ~ } |
  \time 3/8 \tupletUp \tuplet 4/3 { d''4 r4 } |
  \time 2/4 e''2 |
  \time 3/8 es''4. |
  \time 3/4 r8 d''2 r8 |
}
>>

```

```

Perkussion = \new StaffGroup <<
  \new Staff <<
    \global
    {
      \clef percussion
      \time 3/4 r4 c'2 ~ |
      c'2. |
      R2. |
      r2 g'4 ~ |
      g'2. ~ |
      g'2. |
    }
  >>
  \new Staff <<
    \global {
      \clef percussion
      \time 3/4 R2. |
      g'2. ~ |
      g'2. |
      r4 g'2 ~ |
      g'2 r4 |
      g'2. |
    }
  >>
>>

```

```

\score {
  <<
    \Bassklarinette
    \Perkussion
  >>
}

```



## Supressió dels nombres de compàs de tota la partitura

Es poden eliminar completament els nombres de compàs traient el gravador `Bar_number_engraver` del context de `Score`.

```
\layout {
  \context {
    \Score
    \omit BarNumber
    % or:
    % \remove "Bar_number_engraver"
  }
}

\relative c' {
  c4 c c c \break
  c4 c c c
}
```



## Us del corxet recte al començament d'un grup de pentagrames

Es pot usar el delimitador de començament d'un sistema `SystemStartSquare` establint-lo explícitament dins d'un context `StaffGroup` o `ChoirStaffGroup`.

```
\score {
  \new StaffGroup { <<
    \set StaffGroup.systemStartDelimiter = #'SystemStartSquare
    \new Staff { c'4 d' e' f' }
    \new Staff { c'4 d' e' f' }
  >> }
}
```



## Using mark lines in a Frenched score

Using `MarkLine` contexts (such as in “Placing rehearsal marks other than above the top staff”) in a Frenched score can be problematic if all the staves between two `MarkLines` are removed in one system. The `Keep_alive_together_engraver` can be used within each `StaffGroup` to keep the `MarkLine` alive only as long as the other staves in the group stay alive.

```
bars = {
  \tempo "Allegro" 4=120
  s1*2
  \repeat unfold 5 { \mark \default s1*2 }
  \bar "||"
  \tempo "Adagio" 4=40
  s1*2
  \repeat unfold 8 { \mark \default s1*2 }
  \bar "|."
}

winds = \repeat unfold 120 { c''4 }
trumpet = { \repeat unfold 8 g'2 R1*16 \repeat unfold 4 g'2 R1*8 }
trombone = { \repeat unfold 4 c'1 R1*8 d'1 R1*17 }
strings = \repeat unfold 240 { c''8 }

#(set-global-staff-size 16)
\paper {
  systems-per-page = 5
  ragged-last-bottom = ##f
  tagline = ##f
}

\layout {
```

```

indent = 16\mm
short-indent = 5\mm
\context {
  \name MarkLine
  \type Engraver_group
  \consists Output_property_engraver
  \consists Axis_group_engraver
  \consists Mark_engraver
  \consists Metronome_mark_engraver
  \consists Staff_collecting_engraver
  \override VerticalAxisGroup.remove-empty = ##t
  \override VerticalAxisGroup.remove-layer = #'any
  \override VerticalAxisGroup.staff-affinity = #DOWN
  \override VerticalAxisGroup.nonstaff-relatedstaff-spacing.padding = 1
  keepAliveInterfaces = #'()
}
\context {
  \Staff
  \override VerticalAxisGroup.remove-empty = ##t
  \override VerticalAxisGroup.remove-layer = ##f
}
\context {
  \StaffGroup
  \accepts MarkLine
  \consists Keep_alive_together_engraver
}
\context {
  \Score
  \remove Mark_engraver
  \remove Metronome_mark_engraver
  \remove Staff_collecting_engraver
  \override BarNumber.Y-offset = #3
}
}

\score {
  <<
  \new StaffGroup = "winds" \with {
    instrumentName = "Winds"
    shortInstrumentName = "W."
  } <<
  \new MarkLine \bars
  \new Staff \winds
  >>
  \new StaffGroup = "brass" <<
  \new MarkLine \bars
  \new Staff = "trumpet" \with {
    instrumentName = "Trumpet"
    shortInstrumentName = "Tp."
  } \trumpet
  \new Staff = "trombone" \with {
    instrumentName = "Trombone"

```

```

    shortInstrumentName = "Tb."
  } \trombone
>>
\new StaffGroup = "strings" \with {
  instrumentName = "Strings"
  shortInstrumentName = "Str."
} <<
  \new MarkLine \bars
  \new Staff = "strings" { \strings }
>>
>>
}
```

The musical score is divided into four systems, each with four staves: Winds, Trumpet, Trombone, and Strings. The first system (measures 1-5) is marked **Allegro** (♩ = 120) and contains section markers **A** and **B**. The second system (measures 6-10) contains section markers **C** and **D**. The third system (measures 11-15) is marked **Adagio** (♩ = 40) and contains section markers **E** and **F**. The fourth system (measures 16-20) contains section markers **G** and **H**. The Winds and Strings staves play a continuous eighth-note pattern, while the Trumpet and Trombone staves play a similar pattern with some rests.

The image displays a musical score snippet with two systems of staves. The first system (measures 21-25) includes staves for W. (Winds), Tp. (Trumpet), and Str. (Strings). The W. staff has labels J, K, and L above it. The Tp. staff has labels J, K, and L above it. The Str. staff has a continuous rhythmic pattern of eighth notes. The second system (measures 26-30) includes staves for W. (Winds) and Str. (Strings). The W. staff has labels M and N above it. The Str. staff has a continuous rhythmic pattern of eighth notes.

## Using tags to produce mensural and modern music from the same source

Using tags it is possible to produce both mensural and modern notation from the same music. In this snippet, a function `\menrest` is introduced, allowing mensural rests to be pitched as in the original, but with modern rests in the standard staff position.

Tags can also be used where other differences are needed: for example using “whole measure rests” (`R1`, `R\breve`, etc.) in modern music, but normal rests (`r1`, `r\breve`, etc.) in the mensural version. Converting mensural music to its modern equivalent is usually referred to as *transcription*.

The call `c4.\Be c8 c\Am` is the same as `c4.[ c8 c]`. However, it suppresses warnings if it starts on a note that can’t hold a beam but needs it anyway due to the use of `Completion_heads_engraver`.

[Note that the custos sticks out into the right margin and might be cut off if the LilyPond output gets cropped tightly. The use of `\with-true-dimensions` below avoids this.]

```
\layout {
  line-width = 150\mm
}

menrest = #(define-music-function (note) (ly:music?)
  #{
    \tag #'mens $(make-music 'RestEvent note)
    \tag #'mod $(make-music 'RestEvent note 'pitch '())
  #})

Be = \tag #'mod
  #(begin
    (ly:expect-warning (G_ "stem does not fit in beam"))
    (ly:expect-warning (G_ "beam was started here"))
    (make-span-event 'BeamEvent START))

Am = \tag #'mod ]

MenStyle = {
  \override Score.BarNumber.transparent = ##t
  \override Stem.neutral-direction = #up
```

```

\omit Slur
\omit Beam
}

finalis = \section

Music = \relative c'' {
  \key f \major
  g1 d'2 \menrest bes4 bes a2 \menrest r4 g4 fis4. fis8 fis4 fis \break
  g e f4.([ g8] a4[ g8 f] g2.\Be fis8 e\Am fis2) g\breve \finalis
}

MenLyr = \lyricmode {
  So farre, deere life, deare life,
  from thy bright beames ab- en- ted,
}

ModLyr = \lyricmode {
  So far, dear life, dear life,
  from your bright beams ab -- sen -- ted, __
}

\markup \with-true-dimensions % work around a cropping issue
\score {
  \keepWithTag #'mens {
    <<
    \new PetrucciStaff {
      \new PetrucciVoice = "Cantus" {
        \clef "petrucci-c1" \time 4/4 \MenStyle \Music
      }
    }
    \new Lyrics \lyricsto "Cantus" \MenLyr
  } >>
}
\layout {
  \context {
    \PetrucciVoice
    % No longer necessary starting with version 2.25.23.
    \override Flag.style = #'mensural
  }
}

\markup\vspace #1

\score {
  \keepWithTag #'mod {
    \new ChoirStaff <<
    \new Staff {
      \new Voice = "Sop" \with {
        \remove "Note_heads_engraver"
        \consists "Completion_heads_engraver"
        \remove "Rest_engraver"
      }
    }
  } >>
}

```

```

\consists "Completion_rest_engraver"
} \shiftDurations 1 0 { \time 2/4 \autoBeamOff \Music }
}
\new Lyrics \lyricsto "Sop" \ModLyr
>>
}
}

```

So farre, deere life, deare life, from thy bright

beames ab- fen- ted,

### Estrofa per a solista i tornada a dues veus

Aquesta plantilla crea una partitura que comença amb una estrofa per a solista i continua amb una tornada a dues veus. També mostra l'ús de silencis de separació dins de la variable `\global` per definit canvis de compàs (i altres exemple que són comuns a totes les parts) al llarg de tota la partitura.

```

global = {
\key g \major

```

```

% verse
\time 3/4
s2.*2
\break

```

```

% refrain
\time 2/4
s2*2
\bar "|."
}

```

```

SoloNotes = \relative g' {
\clef "treble"

```

```

% verse

```

```

    g4 g g |
    b4 b b |

    % refrain
    R2*2 |
}

SoloLyrics = \lyricmode {
    One two three |
    four five six |
}

SopranoNotes = \relative c'' {
    \clef "treble"

    % verse
    R2.*2 |

    % refrain
    c4 c |
    g4 g |
}

SopranoLyrics = \lyricmode {
    la la |
    la la |
}

BassNotes = \relative c {
    \clef "bass"

    % verse
    R2.*2 |

    % refrain
    c4 e |
    d4 d |
}

BassLyrics = \lyricmode {
    dum dum |
    dum dum |
}

\score {
  <<
    \new Voice = "SoloVoice" << \global \SoloNotes >>
    \new Lyrics \lyricsto "SoloVoice" \SoloLyrics

    \new ChoirStaff <<
      \new Voice = "SopranoVoice" << \global \SopranoNotes >>
      \new Lyrics \lyricsto "SopranoVoice" \SopranoLyrics

```



```

\new Voice = "BassVoice" << \global \BassNotes >>
\new Lyrics \lyricsto "BassVoice" \BassLyrics
>>
>>

\layout {
  ragged-right = ##t
  \context { \Staff
    % these lines prevent empty staves from being printed
    \RemoveEmptyStaves
    \override VerticalAxisGroup.remove-first = ##t
  }
}

```

One two three four five six

la la la la

dum dum dum dum

## Corxets de primera i segona vegada a sota dels acords

Mitjançant l'addició del gravador `Volta_engraver` al pentagrama pertinent, es poden posar els corxets de primera i segona veu a sota dels acords.

```

\score {
  <<
    \chords { c1 c1 }
    \new Staff \with { \consists "Volta_engraver" }
    {
      \repeat volta 2 { c'1 \alternative { c' } }
    }
  >>
  \layout {
    \context {
      \Score
      \remove "Volta_engraver"
    }
  }
}

```

C C

1.2.

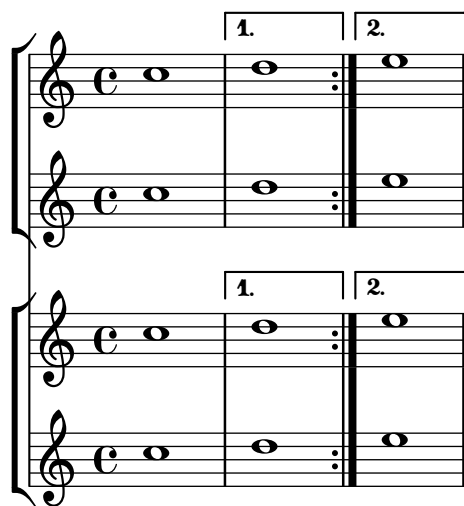
## Volta brackets in multiple staves

By adding the `Volta_engraver` to the relevant staff, volte can be put over staves other than the topmost one in a score.

`\repeat` and related commands should be present in all staves.

```
voltaMusic = \relative c'' {
  \repeat volta 2 {
    c1
    \alternative {
      \volta 1 { d1 }
      \volta 2 { e1 }
    }
  }
}

<<
  \new StaffGroup <<
    \new Staff \voltaMusic
    \new Staff \voltaMusic
  >>
  \new StaffGroup <<
    \new Staff \with { \consists "Volta_engraver" }
      \voltaMusic
    \new Staff \voltaMusic
  >>
>>
```



## 19 Tweaks and overrides

See also Secció “Changing defaults” in *Referencia de la Notación* and Secció “Tweaking output” in *Manual de Aprendizaje*.

### Afegir una indicació d’octava alta a una sola veu

Si teniu més d’una veu al mateix pentagrama, el canvi d’octavació d’una veu transportarà la posició de les notes en totes les veus mentre duri la clau de l’octava. Si l’octavació es vol aplicar sols a una veu, s’han d’ajustar explícitament la `middleCPosition` i la clau d’octava. En aquest fragment de codi el valor de `middleCPosition` per a la clau de Fa és normalment 6, sis posicions per sobre de la línia del Do central, de manera que en la porció de 8va el valor de `middleCPosition` és encara 7 posicions (una octava) més alta.

```
\layout {
  \context {
    \Staff
    \remove Ottava_spanner_engraver
  }
  \context {
    \Voice
    \consists Ottava_spanner_engraver
  }
}

{
  \clef bass
  << { <g d'>1~ q2 <c' e'> }
  \\
  {
    r2.
    \ottava -1
    <b,,, b,,,>4 ~ |
    q2
    \ottava 0
    <c e>2
  }
  >>
}
```



### Afegir enllaços als objectes

Per afegir un enllaç al segell d’un objecte gràfic, podem usar `add-link` tal i com es defineix aquí. Funciona amb `\override` i amb `\tweak`. Inconvenient: `point-and-click` (apuntar i clicar) quedarà obstaculitzat pels objectes gràfics enllaçats.

Limitació: funciona sols per a PDF.

Els objectes enllaçats s'acolorixen amb una ordre a part.

```
#(define (add-link url-strg)
  (lambda (grob)
    (let* ((stil (ly:grob-property grob 'stencil)))
      (if (ly:stencil? stil)
          (let* ((x-ext (ly:stencil-extent stil X))
                  (y-ext (ly:stencil-extent stil Y))
                  (url-expr `(url-link ,url-strg ,x-ext ,y-ext))
                  (new-stil
                     (ly:stencil-add
                      (ly:make-stencil url-expr x-ext y-ext)
                      stil)))
            (ly:grob-set-property! grob 'stencil new-stil))))))

%%% test

%% For easier maintenance of this snippet the URL is formatted to use the
%% actually used LilyPond version.
%% Of course a literal URL would work as well.

#(define major.minor-version
  (string-join (take (string-split (lilypond-version) #\. ) 2) "."))

urlI =
#(format #f
  "http://lilypond.org/doc/v~a/Documentation/notation/writing-pitches"
  major.minor-version)

urlII =
#(format #f
  "http://lilypond.org/doc/v~a/Documentation/notation/rhythms"
  major.minor-version)

urlIII =
#(format #f
  "http://lilypond.org/doc/v~a/Documentation/notation/note-heads"
  major.minor-version)

urlIV =
#(format #f
  "http://lilypond.org/doc/v~a/Documentation/notation/beams"
  major.minor-version)

urlV =
#(format #f
  "http://lilypond.org/doc/v~a/Documentation/notation/note-head-styles"
  major.minor-version)

urlVI =
#(format #f
  "http://lilypond.org/doc/v~a/Documentation/notation/writing-pitches"
```

```

major.minor-version)

\relative c' {
  \key cis \minor

  \once \override Staff.Clef.color = #green
  \once \override Staff.Clef.after-line-breaking =
    #(add-link urlI)

  \once \override Staff.TimeSignature.color = #green
  \once \override Staff.TimeSignature.after-line-breaking =
    #(add-link urlIII)

  \once \override NoteHead.color = #green
  \once \override NoteHead.after-line-breaking =
    #(add-link urlIIII)

  cis'1
  \once \override Beam.color = #green
  \once \override Beam.after-line-breaking =
    #(add-link urlIV)
  cis8 dis e fis gis2
  <gis,
    \tweak Accidental.color #green
    \tweak Accidental.after-line-breaking #(add-link urlVI)
    \tweak color #green
    \tweak after-line-breaking #(add-link urlV)
    \tweak style #'harmonic
  bis
  dis
  fis
  >1
  <cis, cis' e>
}

```



## Adding markups in a tablature

By default, markups are not displayed in a tablature.

To make them appear, revert the stencil property of the TextScript grob in the TabStaff context.

```

high = { r4 r8 <g c'> q r8 r4 }
low = { c4 r4 c8 r8 g,8 b, }
pulse = { s8^"1" s^"&" s^"2" s^"&" s^"3" s^"&" s^"4" s^"&" }

\score {
  \new TabStaff {
    \repeat unfold 2 << \high \\\low \\\pulse >>
  }
}

```

```

\layout {
  \context {
    \TabStaff
    \clef moderntab
    \revert TextScript.stencil
    \override TextScript.font-series = #'bold
    \override TextScript.font-size = #-2
    \override TextScript.color = #red
  }
  \context {
    \Score
    proportionalNotationDuration = #1/8
  }
}

```

	1	&	2	&	3	&	4	&	1	&	2	&	3	&	4	&
<b>T</b>					1-1								1-1			
<b>A</b>					0-0								0-0			
<b>B</b>	3				3			2	3				3			2

## Afegir marques de temps a glissandos llargs

Els temps que se salten a glissandos molt llargs s'indiquen a vegades mitjançant marques de temps, que sovint consisteixen en figures sense cap. Aquestes pliques es poden usar també per allotjar indicacions expressives intermèdies.

Si les pliques no queden ben alineades amb el glissando, podria caldre recol·locar-les lleugerament.

```

glissandoSkipOn = {
  \override NoteColumn.glissando-skip = ##t
  \hide NoteHead
  \override NoteHead.no-ledgers = ##t
}

glissandoSkipOff = {
  \revert NoteColumn.glissando-skip
  \undo \hide NoteHead
  \revert NoteHead.no-ledgers
}

\relative c' {
  r8 f8 \glissando \glissandoSkipOn f4 g a |
  a8 \noBeam \glissandoSkipOff a8
  r8 f8 \glissando \glissandoSkipOn g4 a8 \glissandoSkipOff a8 |
  r4 f \glissando\< \glissandoSkipOn a4\> \glissandoSkipOff b8\! r |
}

```



## Ajustament d'espaiat de les notes d'adorn

Es poden ajustar la separació entre les notes d'adorn utilitzant la propietat `spacing-increment` de `Score.GraceSpacing`.

```

graceNotes = {
  \grace { c4 c8 c16 c32 }
  c8
}

\relative c' {
  c8
  \graceNotes
  \override Score.GraceSpacing.spacing-increment = #2.0
  \graceNotes
  \revert Score.GraceSpacing.spacing-increment
  \graceNotes
}

```



## Adjusting slur positions vertically

Using `\override Slur.positions` it is possible to set the vertical position of the start and end points of a slur to absolute values (or rather, forcing LilyPond's slur algorithm to consider these values as desired). In many cases, this means a lot of trial and error until good values are found. You probably have tried the `\offset` command next just to find out that it doesn't work for slurs, emitting a warning instead.

The code in this snippet allows you to tweak the vertical start and end positions by specifying *relative* changes, similar to `\offset`.

Syntax: `\offsetPositions #'(dy1 . dy2)`

```

offsetPositions =
#(define-music-function (offsets) (number-pair?)
  #{
    \once \override Slur.control-points =
      #(lambda (grob)
        (match-let (((_ . y1) _ _ (_ . y2))
          (ly:slur::calc-control-points grob))
          ((off1 . off2) offsets))
        (set! (ly:grob-property grob 'positions)
          (cons (+ y1 off1) (+ y2 off2)))
        (ly:slur::calc-control-points grob)))
  #})

\relative c' {
  c4(~"default" c, d2)
  \offsetPositions #'(0 . 1)
  c'4(~"(0 . 1)" c, d2)
  \offsetPositions #'(0 . 2)
  c'4(~"(0 . 2)" c, d2)
  \bar "||"
}

```

```

g4(^"default" a d'2)
\offsetPositions #'(1 . 0)
g,,4(^"(1 . 0)" a d'2)
\offsetPositions #'(2 . 0)
g,,4(^"(2 . 0)" a d'2)
}

```



## Adjusting vertical spacing of lyrics

This snippet shows how to bring the lyrics line closer to the staff.

```

music = \relative c' { c4 d e f | g4 f e d | c1 }
text = \lyricmode { aa aa aa aa aa aa aa aa }

```

```

<<
\new Staff \new Voice = melody \music
% Default layout:
\new Lyrics \lyricsto melody \text

\new Staff \new Voice = melody \music
% Reducing the minimum space below the staff and above the lyrics.
\new Lyrics \with {
  \override VerticalAxisGroup.nonstaff-relatedstaff-spacing =
    #'((basic-distance . 1))
} \lyricsto melody \text
>>

```



## Aligning text marks to notes

By default, TextMark objects are aligned to so-called NonMusicalPaperColumn grobs, like the left edge of the staff or a bar line. They can be aligned to a note instead by setting the non-musical property to #f.

```

\layout {
  line-length = 80\mm
}

{
  \textMark "mark a" c'1 |
  \textMark "mark b" c'1 |
  \break
}

```



```

\override Score.TextMark.non-musical = ##f
\textMark "mark c" c'1 |
\textMark "mark d" c'1 |
}

```



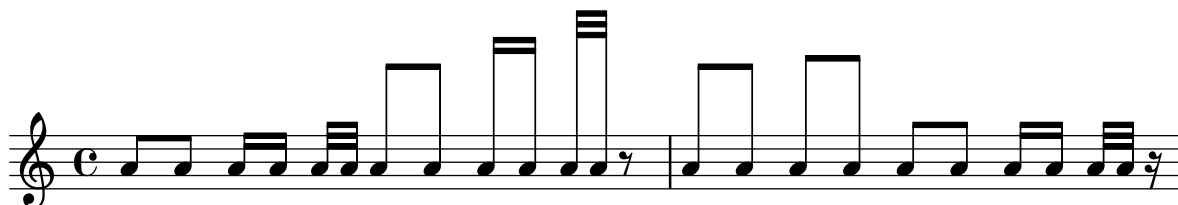
## Alterar la longitud de les pliques unides per una barra

Es pot variar la longitud de les pliques de les figures unides per una barra mitjançant la sobreescritura de la propietat `beamed-lengths` dels detalls (details) de l'objecte `Stem`. Si s'utilitza un sol valor com argument, la longitud s'aplica a totes les pliques. Si s'usen diversos arguments, el primer s'aplica a les corxeres, el segon a les semicorxeres, i així successivament. L'últim argument també s'aplica a totes les figures que són més curtes que la longitud de la figura de l'últim argument. També es poden usar arguments no enters.

```

\relative c' {
  \override Stem.details.beamed-lengths = #'(2)
  a8[ a] a16[ a] a32[ a]
  \override Stem.details.beamed-lengths = #'(8 10 12)
  a8[ a] a16[ a] a32[ a] r8 |
  \override Stem.details.beamed-lengths = #'(8)
  a8[ a]
  \override Stem.details.beamed-lengths = #'(8.5)
  a8[ a]
  \revert Stem.details.beamed-lengths
  a8[ a] a16[ a] a32[ a] r16 |
}

```



## Numeració de compassos alternativa

Es poden seleccionar dos mètodes alternatius per a la numeració de compassos, especials quan hi ha repeticions.

```

music = \relative c' {
  \repeat volta 3 {
    c4 d e f |
    \alternative {
      \volta 1 { c4 d e f | c2 d \break }
      \volta 2 { f4 g a b | f4 g a b | f2 a | \break }
      \volta 3 { c4 d e f | c2 d } } }
  c1 \bar "|"
}

```

```

}

{
  \textMark \markup \large "default"
  \music
}

{
  \textMark \markup \large \typewriter "numbers"
  \set Score.alternativeNumberingStyle = #'numbers
  \music
}

{
  \textMark \markup \large \typewriter "numbers-with-letters"
  \set Score.alternativeNumberingStyle = #'numbers-with-letters
  \music
}

\layout {
  \context {
    \Score
    \override TextMark.Y-offset = #5
  }
}

```

default

4

7

numbers

2

2

numbers-with-letters

## Claus d'anàlisi a sobre del pentagrama

De forma predeterminada s'afegeixen claus d'anàlisi senzills a sota del pentagrama. L'exemple següent mostra una manera de col·locar-los a sobre.

```
\layout {
  \context {
    \Voice
    \consists "Horizontal_bracket_engraver"
  }
}

\relative c'' {
  \once \override HorizontalBracket.direction = #UP
  c2\startGroup
  d2\stopGroup
}
```

## Analysis brackets with labels

Text markup may be added to analysis brackets using the `text` property of the `HorizontalBracketText` grob. Adding different texts to brackets beginning at the same time requires the `\tweak` command.

Bracket text gets parenthesized after a line break. The vertical order of nested brackets can be controlled with the `outside-staff-priority` property.

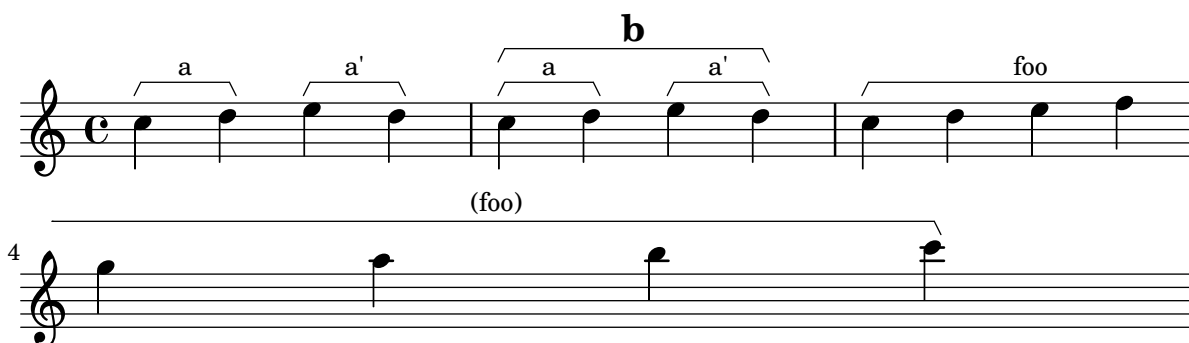
```
\layout {
  \context {
    \Voice
    \consists "Horizontal_bracket_engraver"
    \override HorizontalBracket.direction = #UP
  }
}

{
  \once\override HorizontalBracketText.text = "a"
  c''\startGroup d''\stopGroup
}
```

```

\once\override HorizontalBracketText.text = "a'"
e''\startGroup d''\stopGroup |
c''-\tweak outside-staff-priority #801
  \tweak HorizontalBracketText.text
    \markup \bold \huge "b" \startGroup
  -\tweak HorizontalBracketText.text "a" \startGroup
d''\stopGroup
e''-\tweak HorizontalBracketText.text "a'" \startGroup
d''\stopGroup\stopGroup |
c''-\tweak HorizontalBracketText.text foo \startGroup
d'' e'' f'' | \break
g'' a'' b'' c''\stopGroup
}

```



## Lligadures asimètriques

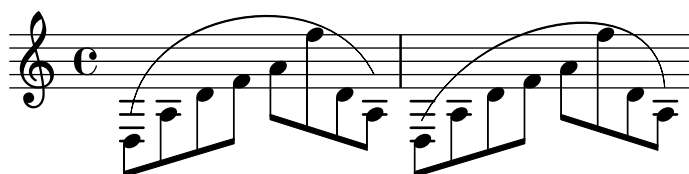
Es pot fer que una lligadura d'expressió sigui asimètrica per adaptar-se millor un patró asimètric de notes.

```
slurNotes = { d,8( a' d f a f' d, a) }
```

```

\relative c' {
  \stemDown
  \slurUp
  \slurNotes
  \once \override Slur.eccentricity = #3.0
  \slurNotes
}

```



## Breaking horizontal alignment of dynamics and textscripts

LilyPond uses `DynamicLineSpanner` grobs to horizontally align successive dynamic objects like hairpins and dynamic text, even if they are positioned on different sides of a staff. This connection cannot be broken, contrary to the vertical alignment (see snippet “Breaking vertical alignment of dynamics and textscripts”).

There are two solutions to circumvent the problem.

- Modify the `shorten-pair` property of the `Hairpin` grob to compensate the offset by which the hairpin was moved.

- Put the two dynamic objects into different voices.

Both solutions are demonstrated in this snippet.

```
{
  <>~"default"
  f' _\pp ^\> f' f' f'\!
}

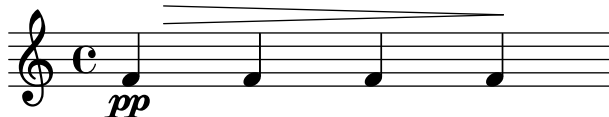
{
  <>~\markup { setting \typewriter shorten-pair }
  f' _\pp \tweak shorten-pair #'(-3 . 0) ^\> f' f' f'\!
}

{
  <>~\markup { using another \typewriter Voice context }
  << { f' ^\> f' f' f'\! }
    \new Voice { s4 _\pp } >>
}

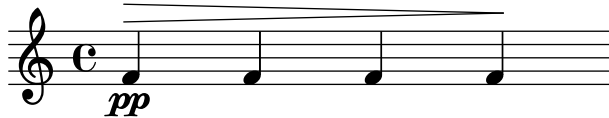
\layout {
  line-width = 8\cm
  ragged-right = ##f

  \context {
    \Voice
    \override TextScript.staff-padding = #3.5
  }
}
```


default



setting shorten-pair



using another Voice context



## Breaking vertical alignment of dynamics and textscripts

By default, LilyPond uses `DynamicLineSpanner` grobs to vertically align successive dynamic objects like hairpins and dynamic text. However, this is not always wanted. By inserting `\breakDynamicSpan`, which ends the alignment spanner prematurely, this vertical alignment can be avoided.

See also snippet “Breaking horizontal alignment of dynamics and textscripts”.

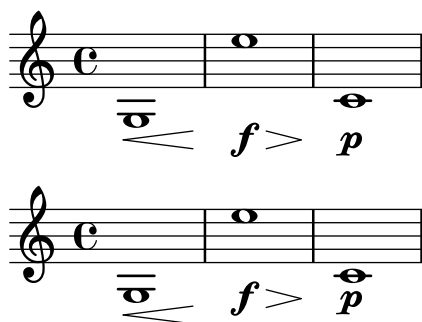
```
{ g1\< |
```

```

e''\f\> |
c'\p }

{ g1\< |
e''\breakDynamicSpan\f\> |
c'\p }

```



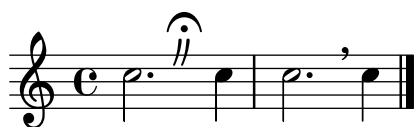
## Caesura (“railtracks”) with fermata

A caesura is sometimes denoted by a double “railtracks” breath mark with a fermata sign positioned above. This snippet shows an optically pleasing combination of railtracks and fermata.

```

\relative c' {
  c2.
  % construct the symbol
  \override BreathingSign.text = \markup {
    \override #'(direction . 1)
    \override #'(baseline-skip . 1.8)
    \dir-column {
      \translate #'(0.155 . 0)
      \center-align \musicglyph "scripts.caesura.curved"
      \center-align \musicglyph "scripts.ufermata"
    }
  }
  \breathe c4
  % set the breath mark back to normal
  \revert BreathingSign.text
  c2. \breathe c4
  \bar "|"
}

```



## Changing a single note’s size in a chord

Individual note heads in a chord can be modified with the `\tweak` command inside a chord, by altering the font-size property.

Inside the chord (within the brackets `< >`), before the note to be altered, place the `\tweak` command, followed by font-size and define the proper size like `#-2` (a tiny note head).

```

\relative c' {
  <\tweak font-size #-2 c e g c

```

```
\tweak font-size #-2 e>1
~\markup { A tiny e }_~\markup { A big c }
}
```



## Changing beam thickness and spacing

To make beams thicker or thinner, alter the `beam-thickness` property of the `Beam` grob. To adjust the spacing between beams, alter `length-fraction`.

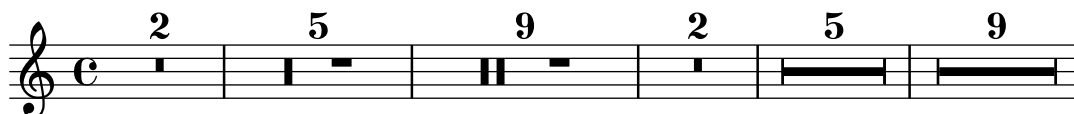
```
\relative f' {
  \time 1/8
  \override Beam.beam-thickness = #0.4
  \override Beam.length-fraction = #0.8
  c32 c c c
  \revert Beam.beam-thickness % 0.48 is default thickness
  \revert Beam.length-fraction % 1.0 is default spacing
  c32 c c c
  \override Beam.beam-thickness = #0.6
  \override Beam.length-fraction = #1.3
  c32 c c c
}
```



## Canviar la forma dels silencis multicompass

Si hi ha deu compassos de silenci o menys, s'imprimeix en el pentagrama una sèrie de silencis de breu i longa (coneguts en alemany com “Kirchenpausen”, «silencis eclesiàstics»); en cas contrari es mostra una barra normal. Aquest nombre predeterminat de deu es pot canviar sobreescrivint la propietat `expand-limit`:

```
\relative c' {
  \compressMMRests {
    R1*2 | R1*5 | R1*9
    \override MultiMeasureRest.expand-limit = 3
    R1*2 | R1*5 | R1*9
  }
}
```



## Modificació de propietats per a objectes gràfics individuals

L'ordre `\applyOutput` fa possible l'ajustament fi de qualsevol objecte de presentació, en qualsevol context. Requereix una funció de l'Scheme amb tres arguments

```
#(define (mc-squared grob grob-origin context)
```

```
(let ((sp (ly:grob-property grob 'staff-position)))
  (ly:grob-set-property!
   grob 'stencil
   (grob-interpret-markup grob
    #{ \markup \lower #0.5
      #(case sp
         ((-5) "m")
         ((-3) "c ")
         ((-2) #{ \markup \teeny \bold 2 #})
         (else "bla"))) #}))))

\relative c' {
  <d f g b>2
  \applyOutput Voice.NoteHead #mc-squared
  <d f g b>2
}
```



## Canviar el text i els estils d'objecte d'extensió per a les indicacions dinàmiques textuais

Es pot modificar el text empleat per als crescendos i decrescendos modificant les propietats de context `crescendoText` i `decrescendoText`.

L'estil de la línia d'extensió es pot canviar modificant la propietat `'style` de `DynamicTextSpanner`. El valor predeterminat és `'dashed-line` (línia discontinua), i entre d'altres valors possibles es troben `'line` (línia), `'dotted-line` (línia de punts) i `'none` (res):

```
\relative c' {
  \set crescendoText = \markup { \italic { cresc. poco } }
  \set crescendoSpanner = #'text
  \override DynamicTextSpanner.style = #'dotted-line
  a2\< a
  a2 a
  a2 a
  a2 a\mf
}
```



## Canviar la família de tipus de lletra predeterminada per al text

Les famílies de tipus de lletra per al text es poden sobreescriure amb `make-pango-font-tree`.

```
%{
You may have to install additional fonts.
```

Red Hat Fedora: `dejavu-fonts-all`

Debian GNU/Linux, Ubuntu: `fonts-dejavu-core`



```

                                fonts-dejavu-extra
%}

\paper {
  %{
    run
      lilypond -dshow-available-fonts
    to show all fonts available in the process log.
  %}
  property-defaults.fonts.serif = "DejaVu Serif"
  property-defaults.fonts.sans = "DejaVu Sans"
  property-defaults.fonts.typewriter = "DejaVu Sans Mono"
}

{
  g'''4^\markup {
    DejaVu Serif: \bold bold
                  \italic italic
                  \italic \bold { bold italic }
  }
  g4_\markup {
    \override #'(font-family . sans) {
      DejaVu Sans: \bold bold
                  \italic italic
                  \italic \bold { bold italic }
    }
  }
  g''2^\markup {
    \override #'(font-family . typewriter) {
      DejaVu Sans Mono: \bold bold
                      \italic italic
                      \italic \bold { bold italic }
    }
  }
}

```



## Modificar la mida de la pauta

Tot i que la manera més senzilla de redimensionar els pentagrames és usar `#{set-global-staff-size xx}`, la mida d'una pauta individual es pot canviar escalant les propietats de `'staff-space` i de `fontSize`.

```

<<
\new Staff \relative c'' {
  \dynamicDown c8\ff c c c c c c c
}

```

```

\new Staff \with {
  fontSize = #-3
  \override StaffSymbol.staff-space = #(magstep -3)
} \relative c {
  \clef bass c8 c c c c \f c c c
}
>>

```



## Canviar el tempo sense indicació metronòmica

Per canviar el tempo a la sortida MIDI sense imprimir res, fem invisible la indicació metronòmica:

```

\score {
  \new Staff \relative c' {
    \tempo 4 = 160
    c4 e g b
    c4 b d c
    \set Score.tempoHideNote = ##t
    \tempo 4 = 96
    d,4 fis a cis
    d4 cis e d
  }
  \layout { }
  \midi { }
}

```



## Modificar el text de las indicacions de pedal

Es pot usar `Staff.pedalSustainStrings` per fixar el text de les indicacions de pisar pedal i aixecar pedal. Observeu que les úniques cadenes vàlides són les que estan a la llista de glifs de pedal: els valors que apareixen en aquest fragment de codi són una relació exhaustiva.

```
sustainNotes = { c4\sustainOn d e\sustainOff\sustainOn f\sustainOff }
```

```

\relative c' {
  \sustainNotes
  \set Staff.pedalSustainStrings = #("P" "P-" "-")
  \sustainNotes
  \set Staff.pedalSustainStrings = #("d" "de" "e")
  \sustainNotes
  \set Staff.pedalSustainStrings = #("M" "M-" "-")
  \sustainNotes
}

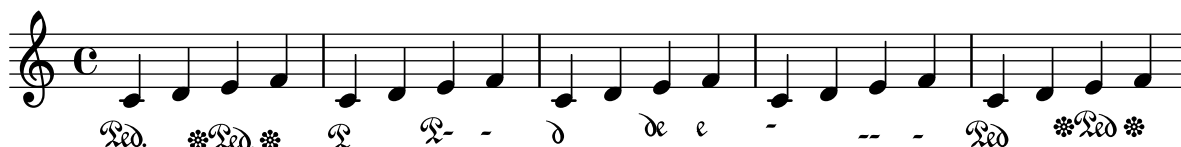
```

```

\set Staff.pedalSustainStrings = #'("Ped" "*Ped" "*")
\sustainNotes
}

\layout {
  ragged-right = ##f
}

```



## Controlar la visibilitat dels objectes d'extensió després d'un salt de línia

La visibilitat dels objectes d'extensió que acaben a la primera nota després d'un salt de línia està controlada per la funció de crida de `after-line-breaking` ly:spanner::kill-zero-spanned-time.

Per als objectes com els glissandos i els reguladors, el comportament predeterminat és ocultar l'objecte d'extensió després del salt; la inhabilitació de la funció de `callblack` fa que l'objecte d'extensió trencat per l'esquerra pot mostrar-se.

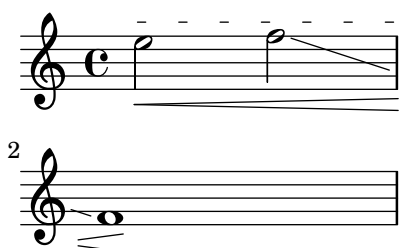
De forma inversa, els objectes d'extensió que són visibles normalment, com els objectes d'extensió de text, es poden ocultar habilitant la funció de `callback`.

```

\paper {
  line-width = 50\mm
}

\relative c'' {
  \override Hairpin.to-barline = ##f
  \override Glissando.breakable = ##t
  % show hairpin
  \override Hairpin.after-line-breaking = ##t
  % hide text span
  \override TextSpanner.after-line-breaking =
    #ly:spanner::kill-zero-spanned-time
  e2\<\startTextSpan
  % show glissando
  \override Glissando.after-line-breaking = ##t
  f2\glissando
  \break
  f,1\!\stopTextSpan
}

```



## Controlling the appearance of tremolo slashes

Using various properties of the `StemTremolo` grob it is possible to control the appearance of tremolo slashes.

- Property `slope` sets the slope for tremolo slashes.
- Property `shape` determines whether tremolo slashes look like rectangles (value `rectangle`) or like very small beams (value `beam-like`).
- Property `style` sets both the slope and the shape depending on whether the note has flags, beams, or only a plain stem. This is in contrast to the previous two properties, which change the slope and shape unconditionally. There are two styles defined.
  - `default`: slashes for down-stem flags are longer and more sloped than slashes for up-stem flags; slashes on beamed notes have a rectangular shape and are parallel to the beam.
  - `constant`: all slashes are beam-like and have the same slope except for down-stem flags.

```
music = {
  a''4:32 a':
  e''8: \noBeam e':
  a'':[ a':]
  f':[ g':]
  d':[ d':]
}

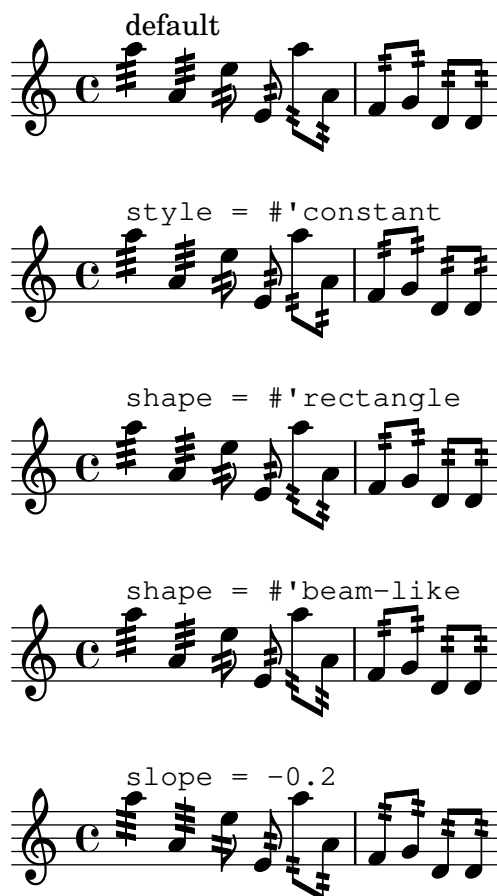
\new Staff {
  <>^\markup "default"
  \music
}

\new Staff {
  <>^\markup \typewriter "style = #'constant"
  \override StemTremolo.style = #'constant
  \music
}

\new Staff {
  <>^\markup \typewriter "shape = #'rectangle"
  \override StemTremolo.shape = #'rectangle
  \music
}

\new Staff {
  <>^\markup \typewriter "shape = #'beam-like"
  \override StemTremolo.shape = #'beam-like
  \music
}

\new Staff {
  <>^\markup \typewriter "slope = -0.2"
  \override StemTremolo.slope = -0.2
  \music
}
```



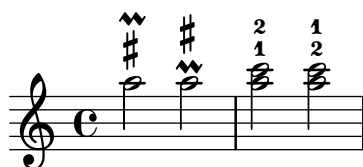
## Controlar l'ordenació vertical de les inscripcions

L'orden vertical que ocupen les inscripcions gràfiques està controlat amb la propietat `'script-priority`. Quant més baix és aquest número, més a prop de la nota es col·locarà. En aquest exemple, el `TextScript` (el sostingut) té primer la prioritat més baixa, per la qual cosa se situa en la posició més baixa al primer exemple. En el segon, el `semitrí` (el `Script`) és el que la té més baixa, per la qual cosa se situa en la part interior. Quan dos objectes tenen la mateixa prioritat, l'ordre en el qual s'introdueixen determina quin serà el que apareix en primer lloc.

```
\relative c''' {
  \once \override TextScript.script-priority = -100
  a2^\prall^\markup { \sharp }

  \once \override Script.script-priority = -100
  a2^\prall^\markup { \sharp }

  \set fingeringOrientations = #'(up)
  <c-2 a-1>2
  <a-1 c>\tweak script-priority -100 -2>2
}
```



## Control de la visibilitat dels corxets de grup especial

El comportament predeterminat de la visibilitat dels corxets de grup de valoració especial és imprimir el corxet a no ser que hi hagi una barra de la mateixa longitud que el grup especial. Per controlar la visibilitat dels corxets de grup, establiu la propietat 'bracket-visibility a #t (sempre imprimir el corxet). #f (no imprimir-lo mai) o #'if-no-beam (imprimir el corxet sols si no hi ha barra).

```
music = \relative c'' {
  \tuplet 3/2 { c16[ d e ] f8]
  \tuplet 3/2 { c8 d e }
  \tuplet 3/2 { c4 d e }
}

\new Voice {
  \relative c' {
    \override Score.TextMark.non-musical = ##f
    \textMark "default" \music
    \override TupletBracket.bracket-visibility = #'if-no-beam
    \textMark \markup \typewriter "'if-no-beam" \music
    \override TupletBracket.bracket-visibility = ##t
    \textMark \markup \typewriter "#t" \music
    \override TupletBracket.bracket-visibility = ##f
    \textMark \markup \typewriter "#f" \music
    \omit TupletBracket
    \textMark \markup \typewriter "omit" \music
  }
}
```



## Crear un grupet d'anticipació

La creació d'un grupet circular d'anticipació entre dues notes, on la nota inferior del grupet utilitza una alteració, requereix diverses sobreescritures de propietats. La propietat `outside-staff-priority` es pot establir al valor #f, atès que en aquest cas tindria prioritat sobre la propietat `avoid-slur property`. Canviant les fraccions 2/3 i 1/3 pot ajustar-se la posició horitzontal.

```
\relative c'' {
  \after 2*2/3 \turn c2( d4) r |
  \after 4 \turn c4.( d8)
  \after 4
  {
    \once \set suggestAccidentals = ##t
    \once \override AccidentalSuggestion.outside-staff-priority = ##f
    \once \override AccidentalSuggestion.avoid-slur = #'inside
    \once \override AccidentalSuggestion.font-size = -3
  }
}
```

```

\once \override AccidentalSuggestion.script-priority = -1
\once \hideNotes
cis8\turn \noBeam
}
d4.( e8)
}

```



## Creació d'armadures personalitzades

El LilyPond accepta armadures personalitzades. En aquest exemple, es mostra l'armadura de re menor amb una rang estès de bemolls.

```

\new Staff \with {
  \override StaffSymbol.line-count = #8
  \override KeySignature.flat-positions = #'((-7 . 6))
  \override KeyCancellation.flat-positions = #'((-7 . 6))
  \override KeySignature.sharp-positions = #'((-6 . 7))
  \override KeyCancellation.sharp-positions = #'((-6 . 7))

  \override Clef.stencil =
    #(\lambda (grob)
      (grob-interpret-markup grob
        #{\markup\combine
          \musicglyph "clefs.C"
          \translate #'(-3 . -2)
          \musicglyph "clefs.F"
        })
      )
    )
  clefPosition = #3
  middleCPosition = #3
  middleCClefPosition = #3
}

{
  \key d\minor f bes, f bes, |
  \key d\major fis b, fis b, |
}

```



## Crear elements de extensió textuals

Les ordres `\startTextSpan` i `\stopTextSpan` permeten la creació d'elements d'extensió textuals tan fàcilment com indicacions de pedal o octavacions. Sobreescrivim certes propietats de l'objecte `TextSpanner` per modificar la seva sortida.

```

\paper { ragged-right = ##f }

\relative c' {

```

```

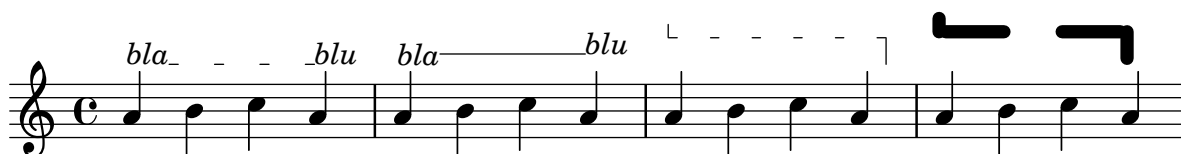
\override TextSpanner.bound-details.left.text = #"bla"
\override TextSpanner.bound-details.right.text = #"blu"
a4 \startTextSpan
b4 c
a4 \stopTextSpan

\override TextSpanner.style = #'line
\once \override TextSpanner.bound-details.left.stencil-align-dir-y = #CENTER
a4 \startTextSpan
b4 c
a4 \stopTextSpan

\override TextSpanner.style = #'dashed-line
\override TextSpanner.bound-details.left.text =
  \markup { \draw-line #'(0 . 1) }
\override TextSpanner.bound-details.right.text =
  \markup { \draw-line #'(0 . -2) }
\once \override TextSpanner.bound-details.right.padding = #-2
a4 \startTextSpan
b4 c
a4 \stopTextSpan

\override TextSpanner.dash-period = #10
\override TextSpanner.dash-fraction = #0.5
\override TextSpanner.thickness = #10
a4 \startTextSpan
b4 c
a4 \stopTextSpan
}

```



## Cross-staff chords – beaming problems workaround

Sometimes it is better to use stems from the ‘other’ staff for creating cross-staff chords to trick LilyPond’s beam collision detector. In the following snippet, if the stems from the lower staff were used instead, it would be necessary to explicitly use

```
\override Staff.Beam.collision-voice-only = ##t
```

so that LilyPond doesn’t move the beams.

```

\new PianoStaff <<
\new Staff = up \relative c' <<
{ r4
  \override Stem.cross-staff = ##t
  \override Stem.length = #19 % this is in half-spaces,
    % so it makes stems 9.5 staffspaces long
  \override Stem.Y-offset = #-6 % stems are normally lengthened
    % upwards, so here we must lower the stem by the amount
    % equal to the lengthening - in this case (19 - 7) / 2
    % (7 is default stem length)
}

```

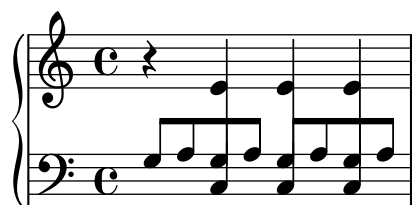


```

    e e e }
  { s4
    \change Staff = "bottom"
    \override NoteColumn.ignore-collision = ##t
    c, c c
  }
>>

\new Staff = bottom \relative c' {
  \clef bass
  \voiceOne
  g8 a g a g a g a
}
>>

```



## Pliques de pentagrama creuat

Aquest fragment de codi mostra l'ús del gravador `Span_stem_engraver` i de `\crossStaff` per connectar automàticament pliques d'un pentagrama a un altre. No cal especificar la longitud de la plica perquè la distància variable entre els caps de les notes i els pentagrames es calcula automàticament.

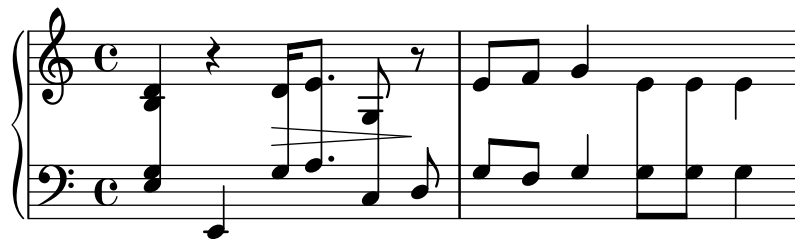
```

\layout {
  \context {
    \PianoStaff
    \consists "Span_stem_engraver"
  }
}

\new PianoStaff <<
  \new Staff {
    <b d'>4 r d'16\> e'8. g8 r\! |
    e'8 f' g'4
    \voiceTwo
    % Down to lower staff
    \crossStaff { e'8 e'8 } e'4 |
  }

  \new Staff {
    \clef bass
    \voiceOne
    % Up to upper staff
    \crossStaff { <e g>4 e, g16 a8. c8 } d |
    g8 f g4 \voiceTwo g8 g g4 |
  }
>>

```



## Custos

Es poden gravar «custos» en diferents estils.

```
\layout {
  ragged-right = ##t
}

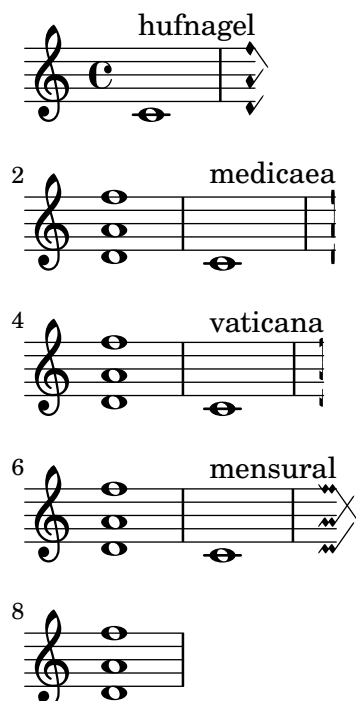
\markup \with-true-dimensions % work around a cropping issue
\score {
  \new Staff \with { \consists "Custos_engraver" } \relative c' {
    \override Staff.Custos.neutral-position = #4

    \override Staff.Custos.style = #'hufnagel
    c1^"hufnagel" \break
    <d a' f'>1

    \override Staff.Custos.style = #'medicaea
    c1^"medicaea" \break
    <d a' f'>1

    \override Staff.Custos.style = #'vaticana
    c1^"vaticana" \break
    <d a' f'>1

    \override Staff.Custos.style = #'mensural
    c1^"mensural" \break
    <d a' f'>1
  }
}
```



## Personalitzar els diagrames de posicions

Es poden establir les propietats dels diagrames de posicions d'acords per mitjà de 'fret-diagram-details. Per als diagrames de posicions de FretBoard, s'apliquen els overrides (sobrescriptures) a l'objecte FretBoards.FretBoard. Com Voice, FretBoards és un context del nivell inferior, i per tant es pot ometre el seu nom a la sobrescriptura de propietats.

```
\include "predefined-guitar-fretboards.ly"
```

```
\storePredefinedDiagram #default-fret-table \chordmode { c' }
                        #guitar-tuning
                        "x;1-1-(;3-2;3-3;3-4;1-1-);"
```

```
% shorthand
```

```
oo = #(define-music-function
  (grob-path value)
  (list? scheme?)
  #{ \once \override $grob-path = #value #})
```

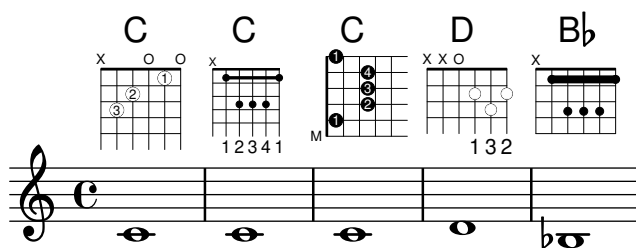
```
<<
```

```
\new ChordNames {
  \chordmode { c1 | c | c | d | bes }
}
\new FretBoards {
  % Set global properties of fret diagram
  \override FretBoards.FretBoard.size = 1.2
  \override FretBoard.fret-diagram-details.finger-code = #'in-dot
  \override FretBoard.fret-diagram-details.dot-color = #'white
  \chordmode {
    c
    \oo FretBoard.size #1.0
    \oo FretBoard.fret-diagram-details.barre-type #'straight
```

```

\oo FretBoard.fret-diagram-details.dot-color #'black
\oo FretBoard.fret-diagram-details.finger-code #'below-string
c'
\oo FretBoard.fret-diagram-details.barre-type #'none
\oo FretBoard.fret-diagram-details.number-type #'arabic
\oo FretBoard.fret-diagram-details.orientation #'landscape
\oo FretBoard.fret-diagram-details.mute-string "M"
\oo FretBoard.fret-diagram-details.label-dir #LEFT
\oo FretBoard.fret-diagram-details.dot-color #'black
c'
\oo FretBoard.fret-diagram-details.finger-code #'below-string
\oo FretBoard.fret-diagram-details.dot-radius #0.35
\oo FretBoard.fret-diagram-details.dot-position #0.5
\oo FretBoard.fret-diagram-details.fret-count #3
d
\oo FretBoard.fret-diagram-details.barre-type #'straight
\oo FretBoard.fret-diagram-details.finger-code #'none
\oo FretBoard.fret-diagram-details.dot-radius #0.25
\oo FretBoard.fret-diagram-details.dot-color #'black
\oo FretBoard.fret-diagram-details.string-overhang #0.
\oo FretBoard.fret-diagram-details.barre-thickness #2.
bes
}
}
\new Voice {
  c'1 | c' | c' | d' | bes
}
>>

```



## Personalitzar diagrames de posicions de marcatge

Es poden establir les propietats dels diagrames de posicions a través de 'fret-diagram-details'. Per als diagrames de posicions de marcatge, es poden aplicar overrides (sobreescriptures) a l'objecte Voice.TextScript o directament a l'element de marcatge.

```

<<
\chords { c1 | c | c | d }

\new Voice = "mel" {
  \textLengthOn
  % Set global properties of fret diagram
  \override TextScript.size = 1.2
  \override TextScript.fret-diagram-details.finger-code = #'in-dot
  \override TextScript.fret-diagram-details.dot-color = #'white

```

```

%% C major for guitar, no barre, using defaults
% terse style
c'1~\markup { \fret-diagram-terse "x;3-3;2-2;o;1-1;o;" }

%% C major for guitar, barred on third fret
% verbose style
% size 1.0
% roman fret label, finger labels below string, straight barre
c'1~\markup {
% standard size
\override #'(size . 1.0) {
  \override #'(fret-diagram-details . (
    (number-type . roman-lower)
    (finger-code . in-dot)
    (barre-type . straight))) {
    \fret-diagram-verbose #'(mute 6)
      (place-fret 5 3 1)
      (place-fret 4 5 2)
      (place-fret 3 5 3)
      (place-fret 2 5 4)
      (place-fret 1 3 1)
      (barre 5 1 3))
  }
}
}

%% C major for guitar, barred on third fret
% verbose style
% landscape orientation, arabic numbers, M for mute string
% no barre, fret label down or left, small mute label font
c'1~\markup {
  \override #'(fret-diagram-details . (
    (finger-code . below-string)
    (number-type . arabic)
    (label-dir . -1)
    (mute-string . "M")
    (orientation . landscape)
    (barre-type . none)
    (xo-font-magnification . 0.4)
    (xo-padding . 0.3))) {
    \fret-diagram-verbose #'(mute 6)
      (place-fret 5 3 1)
      (place-fret 4 5 2)
      (place-fret 3 5 3)
      (place-fret 2 5 4)
      (place-fret 1 3 1)
      (barre 5 1 3))
  }
}

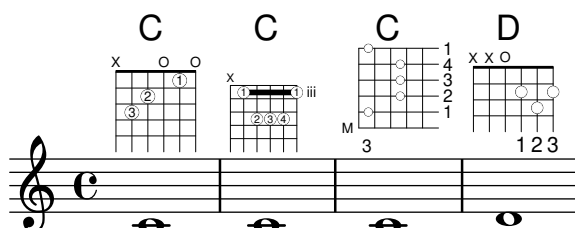
%% simple D chord
% terse style

```

```

% larger dots, centered dots, fewer frets
% label below string
d'1~\markup {
  \override #'(fret-diagram-details . (
    (finger-code . below-string)
    (dot-radius . 0.35)
    (dot-position . 0.5)
    (fret-count . 3))) {
    \fret-diagram-terse "x;x;o;2-1;3-2;2-3;"
  }
}
}
}
>>

```



## Mostrar claudàtor o clau en grups d'un sol pentagrama

Si hi ha un sol pentagrama en un dels tipus de sistema `ChoirStaff` o `StaffGroup`, el comportament predeterminat és que no s'imprimeixi el claudàtor a la barra inicial. Això es pot canviar sobreescrivint `collapse-height` per fixar el seu valor de manera que sigui menor que el nombre de línies a la pauta.

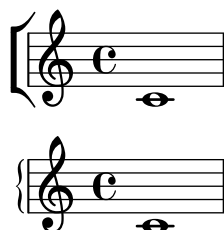
Observeu que en contextos com `PianoStaff` i `GrandStaff` en els quals els sistemes comencen amb una clau en comptes d'un claudàtor, s'ha d'establir el valor d'una propietat diferent, com es veu al segon sistema de l'exemple.

```

\score {
  \new StaffGroup <<
    % Must be lower than the actual number of staff lines
    \override StaffGroup.SystemStartBracket.collapse-height = 4
    \override Score.SystemStartBar.collapse-height = 4
    \new Staff {
      c'1
    }
  >>
}

\score {
  \new PianoStaff <<
    \override PianoStaff.SystemStartBrace.collapse-height = 4
    \override Score.SystemStartBar.collapse-height = 4
    \new Staff {
      c'1
    }
  >>
}

```



## Imprimer l'arbre genealògic d'un grob

En treballar amb les crides d'un grob, pot ser de molta utilitat entendre l'arbre genealògic d'un grob. La major part dels grobs tenen pares que influeixen en el posicionament del grob. Els pares X i Y influeixen en les posicions horitzontal i vertical del grob, respectivament. A més, cada pare pot tenir al seu cop pares.

Desafortunadament, hi ha diversos aspectes de la genealogia d'un grob que pot portar a confusió:

- \* Els tipus de pare que té un grob poden dependre del context.
- \* Per a certs grobs, els pares X i Y són el mateix.
- \* Un "ancestre" concret pot estar relacionat amb un grob de més d'una manera.
- \* El concepte de "generacions" és enganyós.

Por exemple, el grob System pot ser tant un pare (sobre la vorfa Y) com un avi (dues vegades a la vora X) d'un grob VerticalAlignment.

Aquest macro imprimeix, en la consola, una representació textual de la genealogia d'un grob.

Quan es crida d'aquesta forma:

```
{ \once \override NoteHead.before-line-breaking = #display-ancestry c }
```

Es general la sortida següent:

```
NoteHead X,Y: NoteColumn X: PaperColumn X,Y: System Y: VerticalAxisGroup X:
NonMusicalPaperColumn X,Y: System Y: VerticalAlignment X: NonMusicalPaperColumn
X,Y: System Y: System
```

```
#(define (get-ancestry grob)
  (if (not (null? (ly:grob-parent grob X)))
      (list (grob::name grob)
            (get-ancestry (ly:grob-parent grob X))
            (get-ancestry (ly:grob-parent grob Y)))
      (grob::name grob)))
```

```
#(define (format-ancestry lst padding)
  (string-append
    (symbol->string (car lst)) "\n"
    (let ((X-ancestry (if (list? (cadr lst))
                          (format-ancestry (cadr lst) (+ padding 3))
                          (symbol->string (cadr lst))))
      (Y-ancestry (if (list? (caddr lst))
                      (format-ancestry (caddr lst) (+ padding 3))
                      (symbol->string (caddr lst))))))
    (if (equal? X-ancestry Y-ancestry)
        (string-append (format #f "~&")
                        (make-string padding #\space)
                        "X,Y: "
                        (if (list? (cadr lst))
```

```

                (format-ancestry (cadr lst) (+ padding 5))
                (symbol->string (cadr lst))))
    (string-append (format #f "~&")
                    (make-string padding #\space)
                    "X: " X-ancestry "\n"
                    (make-string padding #\space)
                    "Y: " Y-ancestry (format #f "~&"))))
    (format #f "~&"))))

#(define (display-ancestry grob)
  (format (current-output-port)
    "~2&~a~2%~a~&"
    (make-string 36 #\-)
    (if (ly:grob? grob)
        (format-ancestry (get-ancestry grob) 0)
        (format #f "~a is not a grob" grob))))

\relative c' {
  \once \override NoteHead.before-line-breaking = #display-ancestry
  f4
  \once \override Accidental.before-line-breaking = #display-ancestry
  \once \override Arpeggio.before-line-breaking = #display-ancestry
  <f as c>4\arpeggio
}

```



## Harmònics amb puntet

Els harmònics artificials que usen l'ordre `\harmonic` no tenen puntet. Per sobreescrivre aquest comportament, fixeiu la propietat de context `harmonicDots`.

```

\relative c' '' {
  \time 3/4
  \key f \major
  \set harmonicDots = ##t
  <bes f'\harmonic>2. ~
  <bes f'\harmonic>4. <a e'\harmonic>8( <gis dis'\harmonic> <g d'\harmonic>)
  <fis cis'\harmonic>2.
  <bes f'\harmonic>2.
}

```



## Rodejar els objectes gràfics amb rectangles

Es pot sobreescrivre la funció `print-function` per traçar un rectangle al voltant d'un objecte gràfic arbitrari.

```

\relative c' '' {

```



```

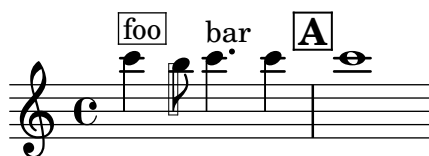
\once \override TextScript.stencil =
  #(make-stencil-boxer 0.1 0.3 ly:text-interface::print)
c'4^"foo"

\tweak Stem.stencil
  #(make-stencil-boxer 0.05 0.25 ly:stem::print)
b8

c4.^"bar" c4

\override Score.RehearsalMark.stencil =
  #(make-stencil-boxer 0.15 0.3 ly:text-interface::print)
\mark \default
c1
}

```



## Rodejar diversos objectes amb una circumferència

L'ordre de marcatge `\circle` traça circumferències al voltant de diversos objectes, per exemple les indicacions de digitació. Per a d'altres objectes es poden requerir ajustament específics: aquest exemple mostra dues estratègies per a lletres d'assaig i els números de compàs.

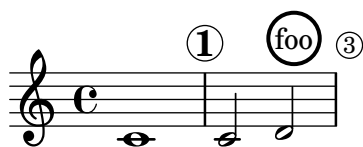
```

\relative c' {
  c1
  \set Score.rehearsalMarkFormatter =
    #(lambda (mark context)
      (make-circle-markup (format-mark-numbers mark context)))
  \mark \default

  c2 d^\markup {
    \override #'(thickness . 3) {
      \circle foo
    }
  }
}

\override Score.BarNumber.break-visibility = #all-visible
\override Score.BarNumber.stencil =
  #(make-stencil-circler 0.1 0.25 ly:text-interface::print)
}

```



## Dynamics spanner with custom text

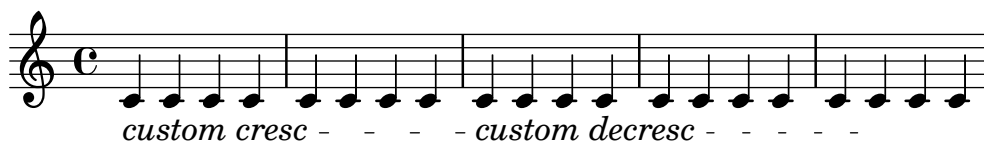
Postfix functions for custom crescendo text spanners. The spanners should start on the first note of the measure. One has to use `-\mycresc`, otherwise the spanner start will rather be assigned to the next note.

```
% Two functions for (de)crescendo spanners where you can explicitly
% give the spanner text.
```

```
mycresc =
#(define-music-function (mymarkup) (markup?)
  (make-music 'CrescendoEvent
    'span-direction START
    'span-type 'text
    'span-text mymarkup))
```

```
mydecresc =
#(define-music-function (mymarkup) (markup?)
  (make-music 'DecrescendoEvent
    'span-direction START
    'span-type 'text
    'span-text mymarkup))
```

```
\relative c' {
  c4-\mycresc "custom cresc" c4 c4 c4 |
  c4 c4 c4 c4 |
  c4-\mydecresc "custom decresc" c4 c4 c4 |
  c4 c4 c4 c4 |
  c4 c4\! c4 c4
}
```

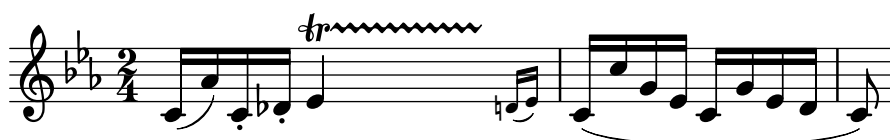


## Extending a trill spanner

For TrillSpanner grobs, the minimum-length property becomes effective only if the set-spacing-rods procedure is called explicitly.

To do this, the springs-and-rods property should be set to `ly:spanner::set-spacing-rods`.

```
\relative c' {
  \key c\minor
  \time 2/4
  c16( as') c,-. des-.
  \once\override TrillSpanner.minimum-length = #15
  \once\override TrillSpanner.springs-and-rods = #ly:spanner::set-spacing-rods
  \afterGrace es4{\startTrillSpan { d16[(\stopTrillSpan es)] }
  c( c' g es c g' es d
  c8)
}
```



## Estendre glissandos sobre repeticions

Es pot simular un glissando que s'estén fins a l'interior de diversos blocs `\alternative` de primera i segona vegada mitjançant l'addició d'una nota d'adorn oculta amb un glissando al començament de cada bloc `\alternative`. La nota d'adorn ha d'estar a la mateixa alçada que la nota que dona inici al primer glissando., Això s'implementa aquí amb una funció musical que agafa com a argument l'altura de la nota d'adorn.

Observeu que a la música polifònica la nota d'adorn ha de coincidir amb les notes d'adorn corresponents en totes les altres veus.

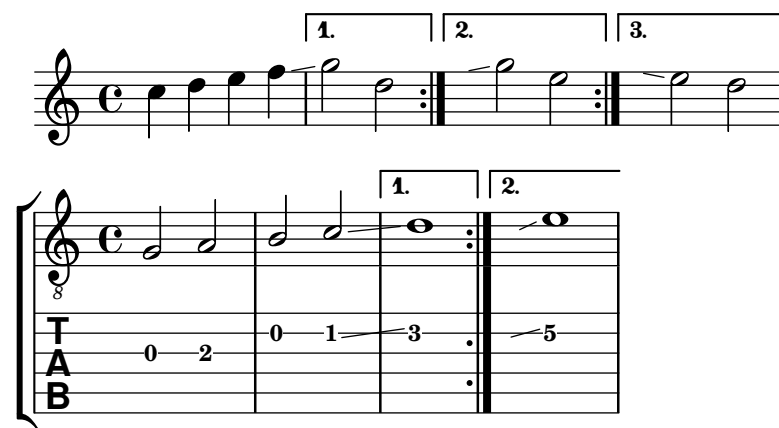
```
repeatGliss = #(define-music-function (grace)
  (ly:pitch?)
  #{
    % the next two lines ensure the glissando is long enough
    % to be visible
    \once \override Glissando.springs-and-rods
      = #ly:spanner::set-spacing-rods
    \once \override Glissando.minimum-length = 3.5
    \once \hideNotes
    \grace $grace \glissando
  #})

\score {
  \relative c' {
    \repeat volta 3 { c4 d e f\glissando }
    \alternative {
      { g2 d }
      { \repeatGliss f g2 e }
      { \repeatGliss f e2 d }
    }
  }
}

music = \relative c' {
  \voiceOne
  \repeat volta 2 {
    g a b c\glissando
  }
  \alternative {
    { d1 }
    { \repeatGliss c \once \omit StringNumber e1\2 }
  }
}

\score {
  \new StaffGroup <<
    \new Staff <<
      \new Voice { \clef "G_8" \music }
    >>
  \new TabStaff <<
    \new TabVoice { \clef "moderntab" \music }
  >>
}>>
```

}



## Ajustament fi de les línies de pedal

Es pot alterar l'aspecte de les línies de pedal de diverses formes.

```
\paper {
  ragged-right = ##f
}
```

```
\relative c' ' {
  c2\sostenutoOn c
  c2\sostenutoOff c
  c2\tweak shorten-pair #'(-7 . -2) \sostenutoOn c
  c2\sostenutoOff c
  c2\tweak edge-height #'(0 . 3) \sostenutoOn c
  c2\sostenutoOff c
}
```



## Flat ties

This snippet provides a function `flared-tie` to draw a tie that consist of straight lines. It is intended as a replacement for the default tie-drawing function (i.e., a replacement argument for the `stencil` property of the `Tie` grob).

The argument of `flared-tie` is a list of coordinate pairs that specify additional points between the first and last point to span up the tie's lines. The first and last point are identical to the original tie's start and end point, respectively. The X and Y coordinate values are multiples of the bounding box length and height of the original tie (also taking care of the tie's direction); consequently, the first point has coordinates (0,0), and the last point (1,0).

The function `flare-tie` defines a shorthand for a flat tie. Further tweaking of the shape is possible by overriding `Tie.details.height-limit` or with `\shape`. It is also possible to change the custom definition on the fly.

```
#(define ((flared-tie coords) grob)
  (define (pair-to-list pair)
    (list (car pair) (cdr pair)))
```

```

(define (normalize-coords goods x y dir)
  (map
    (lambda (coord)
      (cons (* x (car coord)) (* y dir (cdr coord))))
    goods))

(define (my-c-p-s points thick)
  (make-connected-path-stencil points thick 1.0 1.0 #f #f))

;; Calling `ly:tie::print` and assigning its return value to a
;; variable in this outer `let` triggers LilyPond to position the
;; tie, allowing us to extract its extents. We only proceed,
;; however, if the tie doesn't get discarded (for whatever reason).
(let ((sten (ly:tie::print grob)))
  (if (grob::is-live? grob)
      (let* ((layout (ly:grob-layout grob))
             (line-thickness (ly:output-def-lookup layout
                                                       'line-thickness))
             (thickness (ly:grob-property grob 'thickness 0.1))
             (used-thick (* line-thickness thickness))
             (dir (ly:grob-property grob 'direction))
             (xex (ly:stencil-extent sten X))
             (yex (ly:stencil-extent sten Y))
             (lenx (interval-length xex))
             (leny (interval-length yex))
             (xtrans (car xex))
             (ytrans (if (> dir 0) (car yex) (cdr yex))))
        ;; Add last point.
        (coord-list (append coords '((1.0 . 0.0))))
        (uplist
          (map pair-to-list
              (normalize-coords coord-list lenx (* leny 2) dir))))
      (ly:stencil-translate
        (my-c-p-s uplist used-thick)
        (cons xtrans ytrans)))
    '()))

% Define a default tie shape consisting of three straight lines.
#(define flare-tie
  (flared-tie '((0.1 . 0.3) (0.9 . 0.3))))

\relative c' {
  a4~ a
  \once \override Tie.stencil = #flare-tie
  a4~ a \break

  <a c e a c e a c e>~ q
  \once \override Tie.stencil = #flare-tie
  q~ q\break

  <>~\markup \small \typewriter "height-limit = 14"

```

```

\override Tie.details.height-limit = 14
a'4~ a
\once \override Tie.stencil = #flare-tie
a4~ a \break

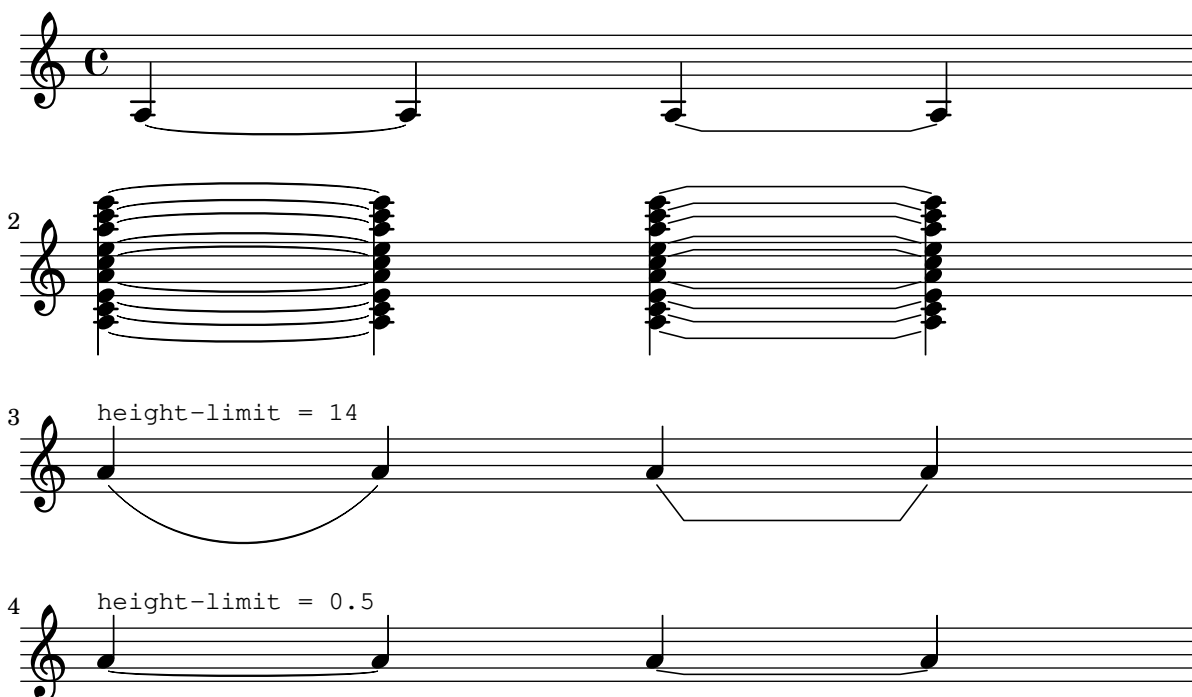
<>^\markup \small \typewriter "height-limit = 0.5"
\override Tie.details.height-limit = 0.5
a4~ a
\once \override Tie.stencil = #flare-tie
a4~ a \break

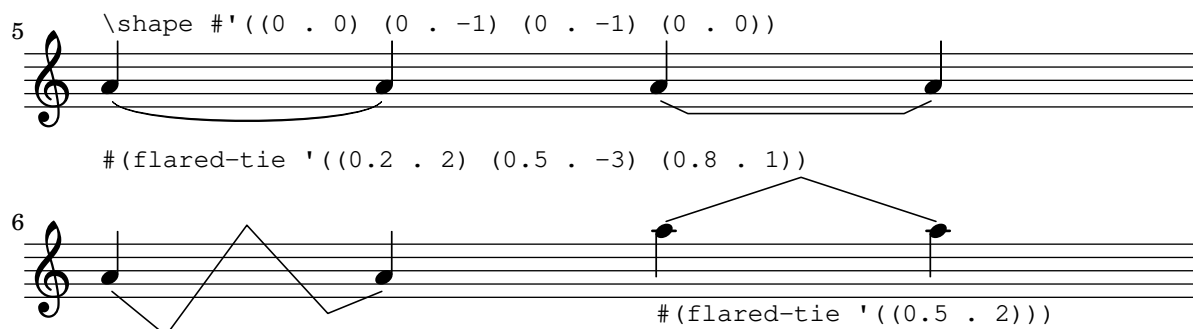
\revert Tie.details.height-limit

<>^\markup \small \typewriter
  "\shape #'((0 . 0) (0 . -1) (0 . -1) (0 . 0))"
\shape #'((0 . 0) (0 . -1) (0 . -1) (0 . 0)) Tie
a4~ a
\once \override Tie.stencil = #flare-tie
\shape #'((0 . 0) (0 . -1) (0 . -1) (0 . 0)) Tie
a4~ a \break

<>^\markup \small \typewriter
  "#(flared-tie '((0.2 . 2) (0.5 . -3) (0.8 . 1)))"
\once \override Tie.stencil =
  "#(flared-tie '((0.2 . 2) (0.5 . -3) (0.8 . 1)))"
a4~ a
<>_\markup \small \typewriter
  "#(flared-tie '((0.5 . 2)))"
\once \override Tie.stencil = #(flared-tie '((0.5 . 2)))
a'4~ a
}

```





## Force a cancellation natural before accidentals

The following example shows how to force a natural sign before an accidental.

```
\relative c' {
  \key es \major
  bes c des
  \tweak Accidental.restore-first ##t
  eis
}
```



## Forçar el desplaçament horitzontal de les notes

Quan el motor de gravat no és capaç de tot, es pot usar la sintaxi següent per sobreescriure les decisions de tipografia. Les unitats de mesura que s'usen aquí són espais de pentagrama.

```
\relative c' <<
{
  <d g>2 <d g>
}
\\
{
  <b f'>2
  \once \override NoteColumn.force-hshift = 1.7
  <b f'>2
}
>>
```



## Diagrames de posicions d'acord, explicats i desenvolupats

Aquest fragment de codi presenta moltes possibilitat per obtenir diagrames de posicions d'acord i com ajustar-los.

```
<<
\chords {
  a1 a \bar "||" \break
  \repeat unfold 3 {
```

```

    c c c d d \bar "||" \break
  }
}

\new Voice {
  % Set global properties of fret diagram
  \override TextScript.size = 1.2
  \override TextScript.fret-diagram-details
    .finger-code = #'below-string
  \override TextScript.fret-diagram-details
    .dot-color = #'black

  % 1
  %
  % A chord for ukulele.
  a'1^\markup
    \override #'(fret-diagram-details
      . ((string-count . 4)
        (dot-color . white)
        (finger-code . in-dot)))
    \fret-diagram "4-2-2;3-1-1;2-o;1-o;"

  % 2
  %
  % A chord for ukulele, with formatting defined in definition
  % string: 1.2 * size, 4 strings, 4 frets, fingerings below,
  % string dot radius .35 of fret spacing, dot position 0.55 of
  % fret spacing.
  a'1^\markup
    \override #'(fret-diagram-details
      . ((dot-color . white)
        (open-string . "o")))
    \fret-diagram
      "s:1.2;w:4;h:3;f:2;d:0.35;p:0.55;4-2-2;3-1-1;2-o;1-o;"

  %%
  %% These chords will be in normal orientation
  %%

  % 3
  %
  % C major for guitar, barred on third fret: verbose style,
  % roman fret label, finger labels below string, straight barre.
  c'1^\markup
    % 110% of default size
    \override #'(size . 1.1)
    \override #'(fret-diagram-details
      . ((number-type . roman-lower)
        (finger-code . below-string)
        (barre-type . straight)))

```



```

\ fret-diagram-verbose #'((mute 6)
                        (place-fret 5 3 1)
                        (place-fret 4 5 2)
                        (place-fret 3 5 3)
                        (place-fret 2 5 4)
                        (place-fret 1 3 1)
                        (barre 5 1 3))

% 4
%
% C major for guitar, barred on third fret: double barre used
% to test barre function, verbose style.
c'1~\markup
% 110% of default size
\override #'(size . 1.1)
\override #'(fret-diagram-details
. ((number-type . arabic)
  (dot-label-font-mag . 0.9)
  (finger-code . in-dot)
  (fret-label-font-mag . 0.6)
  (fret-label-vertical-offset . 0)
  (label-dir . -1)
  (mute-string . "M")
  (xo-font-magnification . 0.4)
  (xo-padding . 0.3)))
\ fret-diagram-verbose #'((mute 6)
                        (place-fret 5 3 1)
                        (place-fret 4 5 2)
                        (place-fret 3 5 3)
                        (place-fret 2 5 4)
                        (place-fret 1 3 1)
                        (barre 4 2 5)
                        (barre 5 1 3))

% 5
%
% C major for guitar, with capo on third fret: verbose style.
c'1~\markup
% 110% of default size
\override #'(size . 1.1)
\override #'(fret-diagram-details
. ((number-type . roman-upper)
  (dot-label-font-mag . 0.9)
  (finger-code . none)
  (fret-label-vertical-offset . 0.5)
  (xo-font-magnification . 0.4)
  (xo-padding . 0.3)))
\ fret-diagram-verbose #'((mute 6)
                        (capo 3)
                        (open 5)
                        (place-fret 4 5 1)
                        (place-fret 3 5 2)

```

```

                                (place-fret 2 5 3)
                                (open 1))

% 6
%
% Simple D chord.
d'1~\markup
  \override #'(fret-diagram-details
    . ((finger-code . below-string)
      (dot-radius . 0.35)
      (string-thickness-factor . 0.3)
      (dot-position . 0.5)
      (fret-count . 3)))
  \fret-diagram-terse "x;x;o;2-1;3-2;2-3;"

% 7
%
% Simple D chord, large top fret thickness.
d'1~\markup
  \override #'(fret-diagram-details
    . ((finger-code . below-string)
      (dot-radius . 0.35)
      (dot-position . 0.5)
      (top-fret-thickness . 7)
      (fret-count . 3)))
  \fret-diagram-terse "x;x;o;2-1;3-2;2-3;"

%%
%% These chords will be in landscape orientation
%%
\override TextScript.fret-diagram-details
  .orientation = #'landscape

% 8
%
% C major for guitar, barred on third fret: verbose style,
% roman fret label, finger labels below string, straight
% barre.
c'1~\markup
  % 110% of default size
  \override #'(size . 1.1)
  \override #'(fret-diagram-details
    . ((number-type . roman-lower)
      (finger-code . below-string)
      (barre-type . straight)))
  \fret-diagram-verbose #'(mute 6)
                                (place-fret 5 3 1)
                                (place-fret 4 5 2)
                                (place-fret 3 5 3)
                                (place-fret 2 5 4)

```

```

                                (place-fret 1 3 1)
                                (barre 5 1 3))

% 9
%
% C major for guitar, barred on third fret: Double barre
% used to test barre function, verbose style.
c'1~\markup
% 110% of default size
\override #'(size . 1.1)
\override #'(fret-diagram-details
. ((number-type . arabic)
(dot-label-font-mag . 0.9)
(finger-code . in-dot)
(fret-label-font-mag . 0.6)
(fret-label-vertical-offset . 0)
(label-dir . -1)
(mute-string . "M")
(xo-font-magnification . 0.4)
(xo-padding . 0.3)))
\fret-diagram-verbose #'((mute 6)
                                (place-fret 5 3 1)
                                (place-fret 4 5 2)
                                (place-fret 3 5 3)
                                (place-fret 2 5 4)
                                (place-fret 1 3 1)
                                (barre 4 2 5)
                                (barre 5 1 3))

% 10
%
% C major for guitar, with capo on third fret: verbose style.
c'1~\markup
% 110% of default size
\override #'(size . 1.1)
\override #'(fret-diagram-details
. ((number-type . roman-upper)
(dot-label-font-mag . 0.9)
(finger-code . none)
(fret-label-vertical-offset . 0.5)
(xo-font-magnification . 0.4)
(xo-padding . 0.3)))
\fret-diagram-verbose #'((mute 6)
                                (capo 3)
                                (open 5)
                                (place-fret 4 5 1)
                                (place-fret 3 5 2)
                                (place-fret 2 5 3)
                                (open 1))

% 11
%
```

```

% Simple D chord.
d'1~\markup
  \override #'(fret-diagram-details
    . ((finger-code . below-string)
      (dot-radius . 0.35)
      (dot-position . 0.5)
      (fret-count . 3)))
  \fret-diagram-terse "x;x;o;2-1;3-2;2-3;"

% 12
%
% Simple D chord, large top fret thickness.
d'1~\markup
  \override #'(fret-diagram-details
    . ((finger-code . below-string)
      (dot-radius . 0.35)
      (dot-position . 0.5)
      (top-fret-thickness . 7)
      (fret-count . 3)))
  \fret-diagram-terse "x;x;o;2-1;3-2;2-3;"

%%
%% These chords will be in opposing-landscape orientation.
%%
\override TextScript.fret-diagram-details
  .orientation = #'opposing-landscape

% 13
%
% C major for guitar, barred on third fret: verbose style,
% roman fret label, finger labels below string, straight
% barre.
c'1~\markup
  % 110% of default size
  \override #'(size . 1.1)
  \override #'(fret-diagram-details
    . ((number-type . roman-lower)
      (finger-code . below-string)
      (barre-type . straight)))
  \fret-diagram-verbose #'((mute 6)
    (place-fret 5 3 1)
    (place-fret 4 5 2)
    (place-fret 3 5 3)
    (place-fret 2 5 4)
    (place-fret 1 3 1)
    (barre 5 1 3))

% 14
%
% C major for guitar, barred on third fret: double barre

```

```

% used to test barre function, verbose style.
c'1^\markup
% 110% of default size
\override #'(size . 1.1)
\override #'(fret-diagram-details
. ((number-type . arabic)
(dot-label-font-mag . 0.9)
(finger-code . in-dot)
(fret-label-font-mag . 0.6)
(fret-label-vertical-offset . 0)
(label-dir . -1)
(mute-string . "M")
(xo-font-magnification . 0.4)
(xo-padding . 0.3)))
\fret-diagram-verbose #'((mute 6)
(place-fret 5 3 1)
(place-fret 4 5 2)
(place-fret 3 5 3)
(place-fret 2 5 4)
(place-fret 1 3 1)
(barre 4 2 5)
(barre 5 1 3))

% 15
%
% C major for guitar, with capo on third fret: verbose style.
c'1^\markup
% 110% of default size
\override #'(size . 1.1)
\override #'(fret-diagram-details
. ((number-type . roman-upper)
(dot-label-font-mag . 0.9)
(finger-code . none)
(fret-label-vertical-offset . 0.5)
(xo-font-magnification . 0.4)
(xo-padding . 0.3)))
\fret-diagram-verbose #'((mute 6)
(capo 3)
(open 5)
(place-fret 4 5 1)
(place-fret 3 5 2)
(place-fret 2 5 3)
(open 1))

% 16
%
% Simple D chord.
d'1^\markup
\override #'(fret-diagram-details
. ((finger-code . below-string)
(dot-radius . 0.35)
(dot-position . 0.5)

```

```

                (fret-count . 3)))
\fret-diagram-terse "x;x;o;2-1;3-2;2-3;"

% 17
%
% Simple D chord, large top fret thickness.
d'1~\markup
  \override #'(fret-diagram-details
    . ((finger-code . below-string)
      (dot-radius . 0.35)
      (dot-position . 0.5)
      (top-fret-thickness . 7)
      (fret-count . 3)))
  \fret-diagram-terse "x;x;o;2-1;3-2;2-3;"
}
>>

```

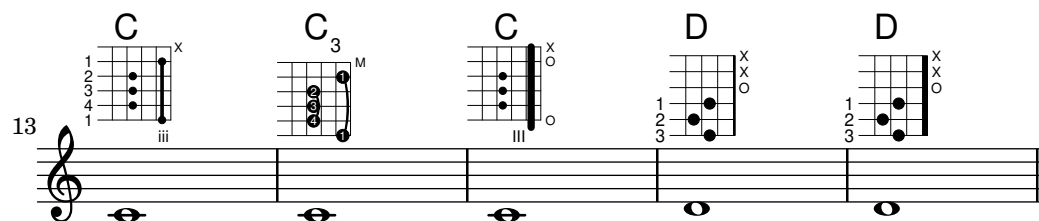
```

\paper {
  ragged-right = ##t
  system-system-spacing.basic-distance = 20
}

\layout {
  \context {
    \Score
    \override SpacingSpanner.spacing-increment = 3
  }
}

```

The image displays a musical score with two systems, each containing five measures. The first system is in treble clef, and the second is in bass clef. Each measure features a guitar fret diagram above a musical staff. The fret diagrams are labeled with chord names: A, C, C, D, D. The first system's fret diagrams show fingerings (1, 2, 3, 4) and fret numbers (2, 1, 3, 2, 2). The second system's fret diagrams show fingerings (1, 2, 3, 4, 5) and fret numbers (2, 1, 3, 2, 2). The fret diagrams are labeled with chord names: A, C, C, D, D. The fret diagrams show fingerings and fret numbers.



## Generate special note head shapes

When a note head with a special shape cannot easily be generated with graphic markup, a drawing specification for `ly:make-stencil` can be used to generate the shape. This snippet gives an example for a parallelogram-shaped note head.

Unfortunately, the available commands in a drawing specification are currently not documented (this is tracked in Issue #6874 (<https://gitlab.com/lilypond/lilypond/-/issues/6874>)); in any case, the used path sub-command has the following signature, quite similar to the `make-path-stencil` Scheme function.

```
(path thickness command-list line-cap-style line-join-style fill)
```

The commands in *command-list* resemble PostScript drawing commands but with arguments after the command name.

```
parallelogram =
  #(ly:make-stencil
    '(path 0.1
      (rmoveto 0 0.25
        lineto 1.2 0.75
        lineto 1.2 -0.25
        lineto 0 -0.75
        lineto 0 0.25)
      round
      round
      #t)
    (cons -0.05 1.25)
    (cons -.75 .75))

myNoteHeads = \override NoteHead.stencil = \parallelogram
normalNoteHeads = \revert NoteHead.stencil

\relative c' {
  \myNoteHeads
  g4 d'
  \normalNoteHeads
  <f, \tweak stencil \parallelogram b e>4 d
}
```



## Generar claudàtors personalitzats

La propietat `stencil` del grob Flag (l'objecte gràfic claudàtor) es pot fixar a un funció de l'Scheme personalitzat que genera el glif del claudàtor.

```
#(define-public (weight-flag grob)
```

```

(let* ((stem-grob (ly:grob-parent grob X))
      (log (- (ly:grob-property stem-grob 'duration-log) 2))
      (is-up? (eqv? (ly:grob-property stem-grob 'direction) UP))
      (yext (if is-up? (cons (* log -0.8) 0) (cons 0 (* log 0.8))))
      (flag-stencil (make-filled-box-stencil '(-0.4 . 0.4) yext))
      (stroke-style (ly:grob-property grob 'stroke-style))
      (stroke-stencil (if (equal? stroke-style "grace")
                          (make-line-stencil 0.2 -0.9 -0.4 0.9 -0.4)
                          empty-stencil)))
  (ly:stencil-add flag-stencil stroke-stencil)))

% Create a flag stencil by looking up the glyph from the font
#(define (inverted-flag grob)
  (let* ((stem-grob (ly:grob-parent grob X))
        (dir (if (eqv? (ly:grob-property stem-grob 'direction) UP) "d" "u"))
        (flag (retrieve-glyph-flag "" dir "" grob))
        (line-thickness (ly:staff-symbol-line-thickness grob))
        (stem-thickness (ly:grob-property stem-grob 'thickness))
        (stem-width (* line-thickness stem-thickness))
        (stroke-style (ly:grob-property grob 'stroke-style))
        (stencil (if (null? stroke-style)
                     flag
                     (add-stroke-glyph flag stem-grob dir stroke-style "")))
        (rotated-flag (ly:stencil-rotate-absolute stencil 180 0 0)))
    (ly:stencil-translate rotated-flag (cons (- (/ stem-width 2)) 0))))

snippetexamplenotes =
{
  \autoBeamOff c'8 d'16 c'32 d'64 \acciaccatura {c'8} d'64
}

{
  \time 1/4
  <>^"Normal flags"
  \snippetexamplenotes

  <>_"Custom flag: inverted"
  \override Flag.stencil = #inverted-flag
  \snippetexamplenotes

  <>^"Custom flag: weight"
  \override Flag.stencil = #weight-flag
  \snippetexamplenotes

  <>_"Revert to normal"
  \revert Flag.stencil
  \snippetexamplenotes
}

```





## Glissando per sota d'una objecte gràfic

Els objectes gràfics de columna de nota (els grobs `NoteColumn`) poder ser sobrepassats pels glissandos.

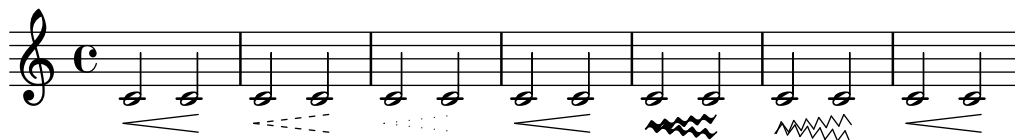
```
\relative c' {
  a2 \glissando
  \once \override NoteColumn.glissando-skip = ##t
  f''4 d,
}
```



## Reguladors amb diferents estils de línia

Els reguladors poden imprimir-se en qualsevol dels estils de line-interface: discontinu, puntejat, línia, tri o zig-zag.

```
\relative c' {
  c2\< c\!
  \override Hairpin.style = #'dashed-line
  c2\< c\!
  \override Hairpin.style = #'dotted-line
  c2\< c\!
  \override Hairpin.style = #'line
  c2\< c\!
  \override Hairpin.style = #'trill
  c2\< c\!
  \override Hairpin.style = #'zigzag
  c2\< c\!
  \revert Hairpin.style
  c2\< c\!
}
```



## Horizontally aligning custom dynamics like “più f”

Some dynamic expressions involve additional text, like “sempre **pp**”. Since dynamics are usually centered under the note, the `\pp` would be displayed way after the note it applies to.

To correctly align the “sempre **pp**” horizontally so that it is aligned as if it were only the `\pp`, there are several approaches:

- Simply use `\once \override DynamicText.X-offset = #-9.2` before the note with the dynamics to manually shift it to the correct position. Drawback: This has to be done manually each time you use that dynamic markup...

- Add some padding (`#:hspace 7.1`) into the definition of your custom dynamic mark so that after LilyPond center-aligns it, it is already correctly aligned. Drawback: The padding really takes up that space and does not allow any other markup or dynamics to be shown in that position.
- Shift the dynamic script `\once \override ... .X-offset = ....` Drawback: `\once \override` is needed for every invocation!
- Set the dimensions of the additional text to 0 (using `#:with-dimensions '(0 . 0) '(0 . 0)`). Drawback: For LilyPond, “sempre” has no extent now. This means it might put other stuff there, causing collisions (which are not detected by LilyPond’s collision detection algorithm!). There also seems to be some spacing, so it is not exactly the same alignment as without the additional text.
- Add an explicit shift directly inside the scheme function for the dynamic script.
- Set an explicit alignment inside the dynamic script. By default, this won’t have any effect, only if one sets `X-offset`! Drawback: One needs to set `DynamicText.X-offset`, which will apply to all dynamic texts! Also, it is aligned at the right edge of the additional text, not at the center of `\pp`.

```
\paper {
  ragged-right = ##f
  indent = 5\cm
}
```

```
% Solution 1: Using a simple markup with a particular halign value
% Drawback: It's a markup, not a dynamic command, so \dynamicDown
%           etc. will have no effect
semppMarkup = \markup { \halign #1.4 \italic "sempre" \dynamic "pp" }
```

```
% Solution 2: Using a dynamic script & shifting with
%           \once \override ...X-offset = ..
% Drawback: \once \override needed for every invocation
semppK =
#(make-dynamic-script
  (markup #:line
    (#:normal-text
      #:italic "sempre"
      #:dynamic "pp"))))
```

```
% Solution 3: Padding the dynamic script so the center-alignment
%           puts it at the correct position
% Drawback: the padding really reserves the space, nothing else can be there
semppT =
#(make-dynamic-script
  (markup #:line
    (#:normal-text
      #:italic "sempre"
      #:dynamic "pp"
      #:hspace 7.1))))
```

```
% Solution 4: Dynamic, setting the dimensions of the additional text to 0
% Drawback: To lilypond "sempre" has no extent, so it might put
%           other stuff there => collisions
% Drawback: Also, there seems to be some spacing, so it's not exactly the
```

```

%           same alignment as without the additional text
sempM =
#(make-dynamic-script
  (markup #:line
    (:with-dimensions '(0 . 0) '(0 . 0)
      #:right-align
      #:normal-text
      #:italic "sempre"
      #:dynamic "pp")))

% Solution 5: Dynamic with explicit shifting inside the scheme function
sempG =
#(make-dynamic-script
  (markup #:hspace 0
    #:translate '(-18.85 . 0)
    #:line (:normal-text
      #:italic "sempre"
      #:dynamic "pp")))

% Solution 6: Dynamic with explicit alignment. This has only effect
%           if one sets X-offset!
% Drawback: One needs to set DynamicText.X-offset!
% Drawback: Aligned at the right edge of the additional text,
%           not at the center of pp
sempMII =
#(make-dynamic-script
  (markup #:line (:right-align
    #:normal-text
    #:italic "sempre"
    #:dynamic "pp")))

\new StaffGroup <<
  \new Staff \with { instrumentName = "standard" }
    \relative c'' {
      \key es \major
      c4\pp c\p c c | c\ff c c\pp c
    }
  \new Staff \with {instrumentName = "normal markup" }
    \relative c'' {
      \key es \major
      c4-\sempMarkup c\p c c | c\ff c c-\sempMarkup c
    }
  \new Staff \with { instrumentName = "explicit shifting" }
    \relative c'' {
      \key es \major
      \once \override DynamicText.X-offset = #-9.2
      c4\sempK c\p c c
      c4\ff c
      \once \override DynamicText.X-offset = #-9.2
      c4\sempK c
    }
  \new Staff \with { instrumentName = "right padding" }

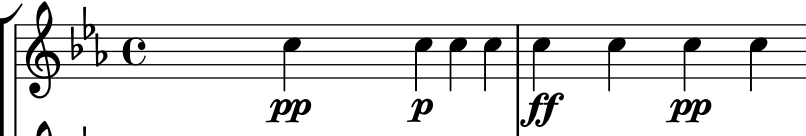
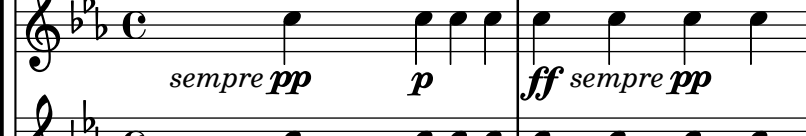



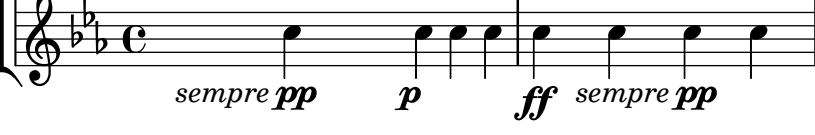

```

```

\relative c'' {
  \key es \major
  c4\semppT c\p c c | c\ff c c\semppT c
}
\new Staff \with { instrumentName = "set dimension to zero" }
\relative c'' {
  \key es \major
  c4\semppM c\p c c | c\ff c c\semppM c
}
\new Staff \with { instrumentName = "shift inside dynamics" }
\relative c'' {
  \key es \major
  c4\semppG c\p c c | c\ff c c\semppG c
}
\new Staff \with { instrumentName = "alignment inside dynamics" }
\relative c'' {
  \key es \major
  \override DynamicText.X-offset = #-1
  c4\semppMII c\p c c | c\ff c c\semppMII c
}
>>

\layout { \override Staff.InstrumentName.self-alignment-X = #LEFT }

```

standard	
normal markup	
explicit shifting	
right padding	
set dimension to zero	
shift inside dynamics	
alignment inside dynamics	

## Com canviar la posició d'un diagrama de posicions

Si volem moure un diagrama de posicions d'acord, per exemple, per evitar una col·lisió, o situar-lo entre dues notes, tenim diverses possibilitats:

1) modificar els valors de farciment `#'padding` o del desplaçament addicional `#'extra-offset` (como es mostra en el primer exemple)

2) podem afegir una veu invisible i adjuntar els diagrames de posicions a les notes invisibles d'aquesta veu (com es veu en el segon exemple).

Si hem de moure el diagrama segons una posició rítmica dins del compàs (a l'exemple, la tercera part del compàs) és millor el segon exemple, perquè el diagrama s'alinea amb la tercera pulsació per si sol

```

harmonies = \chordmode
{
  a8:13
  \once \override ChordNames.ChordName.extra-offset = #'(10 . 0)
  b8:13 s4. |
  s2 b2:13
}

\score {
  <<
    \new ChordNames \harmonies
    \new Staff {
      % Method 1.
      a8^\markup \fret-diagram "6-x;5-0;4-2;3-0;2-0;1-2;"
      \once \override TextScript.extra-offset = #'(10 . 0)
      b4.~\markup \fret-diagram "6-x;5-2;4-4;3-2;2-2;1-4;"
      b4. a8 | \break

      % Method 2.
      <<
        { a8 b4.~ b4. a8 }
        { s2 s2^\markup \fret-diagram "6-x;5-2;4-4;3-2;2-2;1-4;" }
      >> |
    }
  >>
}

```

## Inserir una cesura

Les marques de cesura es poden crear sobreescrivint la propietat `'text` de l'objecte `BreathingSign`. També està disponible una marca de cesura corba.

```
\relative c' {
  \override BreathingSign.text = \markup {
    \musicglyph "scripts.caesura.straight"
  }
  c8 e4. \breathe g8. e16 c4

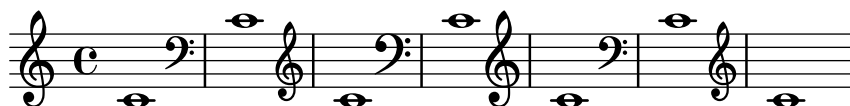
  \override BreathingSign.text = \markup {
    \musicglyph "scripts.caesura.curved"
  }
  g8 e'4. \breathe g8. e16 c4
}
```



## Mantenir la mida del símbol en els canvis de clau

Quan es produeix un canvi de clau, el símbol de clau s'imprimeix a una mida més petita que la clau inicial. Això es pot ajustar amb `full-size-change`.

```
\relative c' {
  \clef "treble"
  c1
  \clef "bass"
  c1
  \clef "treble"
  c1
  \override Staff.Clef.full-size-change = ##t
  \clef "bass"
  c1
  \clef "treble"
  c1
  \revert Staff.Clef.full-size-change
  \clef "bass"
  c1
  \clef "treble"
  c1
}
```



## Puntes de fletxa per a les línies

Es poden aplicar puntes de fletxa als elements d'extensió de text i de línia (com el Glissando).

```
\relative c' {
  \override TextSpanner.bound-padding = #1.0
  \override TextSpanner.style = #'line
```

```

\override TextSpanner.bound-details.right.arrow = ##t
\override TextSpanner.bound-details.left.text = #"fof"
\override TextSpanner.bound-details.right.text = #"gag"
\override TextSpanner.bound-details.right.padding = #0.6

\override TextSpanner.bound-details.right.stencil-align-dir-y = #CENTER
\override TextSpanner.bound-details.left.stencil-align-dir-y = #CENTER

\override Glissando.bound-details.right.arrow = ##t
\override Glissando.arrow-length = #0.5
\override Glissando.arrow-width = #0.25

a8\startTextSpan gis a4 b\glissando b,
g'4 c\stopTextSpan c2
}

```



## Making an object invisible using \hide

Applying `\hide` to a grob causes objects of this type to be printed with “invisible ink”. They are not printed, but all of their other behavior is retained:

- the objects still take up space,
- they take part in collision resolution, and
- slurs, ties, and beams can be attached to them as usual.

This snippet demonstrates how to connect different voices using ties. Normally, ties only connect two notes in the same voice. By introducing a tie in a different voice, and blanking the first up-stem in that voice, the tie appears to cross voices.

```

\relative {
  \time 2/4
  <<
  {
    \once \hide Stem
    \once \override Stem.length = #8
    b'8 ~ 8\noBeam
    \once \hide Stem
    \once \override Stem.length = #8
    g8 ~ 8\noBeam
  }
  \\\
  {
    b8 g g e
  }
  >>
}

\paper {
  line-width = 40\mm
  ragged-right = ##f
}

```

}



## Making glissandi breakable

Si s'ajusta la propietat `breakable` al valor `#t` en combinació amb `after-line-breaking`, podem fer que un glissando es divideixi en el salt de línia:

```
glissandoSkipOn = {
  \override NoteColumn.glissando-skip = ##t
  \hide NoteHead
  \override NoteHead.no-ledgers = ##t
}

music = {
  \repeat unfold 16 f8 |
  f1\glissando |
  a4 r2. |
  \repeat unfold 16 f8 |
  f1\glissando \once\glissandoSkipOn |
  a2 a4 r4 |
  \repeat unfold 16 f8
}

\relative c' ' {
  <>\markup { \typewriter Glissando.breakable
              set to \typewriter "#t" }
  \override Glissando.breakable = ##t
  \override Glissando.after-line-breaking = ##t
  \music
}

\relative c' ' {
  <>\markup { \typewriter Glissando.breakable not set }
  \music
}

\paper {
  line-width = 100\mm
}
```







## Control manual de les posicions de les barres

Es poden controlar manualment les posicions de les barres de corxera sobreescrivint el valor del paràmetre `positions` de l'objecte gràfic `Beam`.

```
\relative c' {
  \time 2/4
  % from upper staff-line (position 2) to center (position 0)
  \override Beam.positions = #'(2 . 0)
  c8 c
  % from center to one above center (position 1)
  \override Beam.positions = #'(0 . 1)
  c8 c
}
```



## Measure-centered bar numbers

For film scores, a common convention is to center bar numbers within their measure. This is achieved through setting the `centerBarNumbers` context property to `##t`. When this is used, the type of the bar number grobs is `CenteredBarNumber` rather than `BarNumber`.

This example demonstrates a number of settings: the centered bar numbers are boxed and placed below the staves.

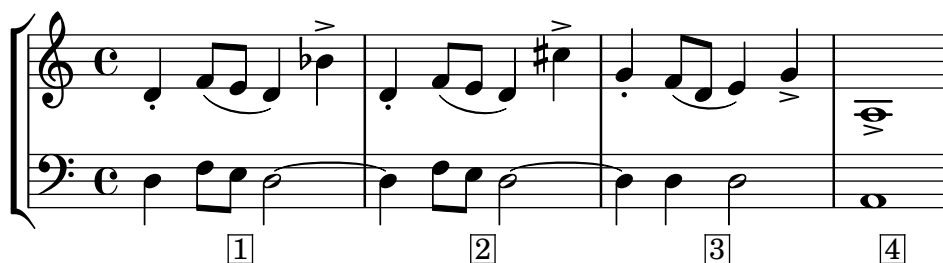
```
\layout {
  \context {
    \Score
    centerBarNumbers = ##t
    barNumberVisibility = #all-bar-numbers-visible
    \override CenteredBarNumber.stencil
      = #(make-stencil-boxer 0.1 0.25 ly:text-interface::print)
    \override CenteredBarNumberLineSpanner.direction = #DOWN
  }
}

\new StaffGroup <<
```

```

\new Staff \relative c' {
  d4-. f8( e d4) bes'-> |
  d,-. f8( e d4) cis'-> |
  g-. f8( d e4) g-> |
  a,1-> |
}
\new Staff \relative c {
  \clef bass
  d4 f8 e d2~ |
  4 f8 e d2~ |
  4 4 2 |
  a1 |
}
>>

```



## Disposició Mensurstriche (línies divisòries entre pentagrames)

La disposició «mensurstriche» en els quals les línies divisòries no estan dibuixades sobre els pentagrames, sinó entre ells, es pot aconseguir amb un `StaffGroup` en comptes d'un `ChoirStaff`. La línia divisòria sobre els pentagrames s'esborra usant `\hide`.

```

\layout {
  \context {
    \Staff
    measureBarType = "-span|"
  }
}

```

```

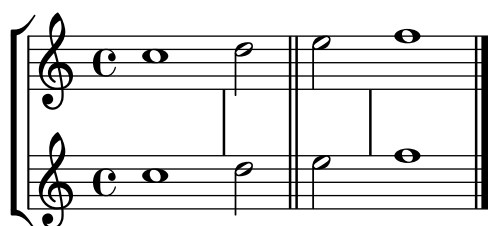
music = \fixed c'' {
  c1
  d2 \section e2
  f1 \fine
}

```

```

\new StaffGroup <<
  \new Staff \music
  \new Staff \music
>>

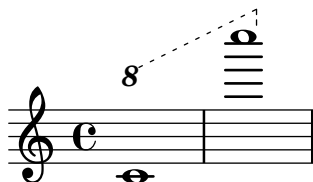
```



## Modifying the ottava spanner slope

It is possible to change the slope of the ottava spanner.

```
\relative c' {
  \override Staff.OttavaBracket.stencil = #ly:line-spanner::print
  \override Staff.OttavaBracket.bound-details =
    #`((left . ((Y . 0)
      (attach-dir . ,LEFT)
      (padding . 0)
      (stencil-align-dir-y . ,CENTER)))
      (right . ((Y . 5.0) ; Change the number here
        (padding . 0)
        (attach-dir . ,RIGHT)
        (text . ,(make-draw-dashed-line-markup
          (cons 0 -1.2))))))
  \override Staff.OttavaBracket.left-bound-info =
    #ly:horizontal-line-spanner::calc-left-bound-info-and-text
  \override Staff.OttavaBracket.right-bound-info =
    #ly:horizontal-line-spanner::calc-right-bound-info
  \ottava 1
  c1
  c''1
}
```



## Desplaçament de les notes amb puntet en polifonia

Quan una nota amb puntet a la veu superior es mou per evitar la col·lisió amb una nota de una altra veu, el comportament predeterminat és desplaçar la nota superior a la dreta. Es pot canviar usant la propietat `prefer-dotted-right` de `NoteCollision`.

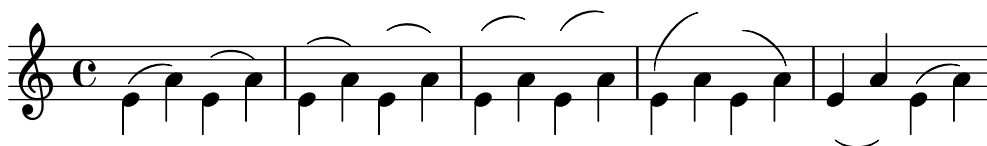
```
\new Staff \relative c' <<
{
  f2. f4
  \override Staff.NoteCollision.prefer-dotted-right = ##f
  f2. f4
  \override Staff.NoteCollision.prefer-dotted-right = ##t
  f2. f4
}
\\
{ e4 e e e e e e e e e e }
>>
```



## Desplaçament de les lligadures d'expressió verticalment

Es pot ajustar la posició vertical d'una lligadura d'expressió utilitzant la propietat `positions` de l'objecte `Slur`. La propietat de dos paràmetres, on el primer es refereix a l'extrem esquerre de la lligadura i el segon al dret. Els valors dels paràmetres no s'utilitzen per part del LilyPond per produir un desplaçament exacte de la lligadura: més bé selecciona la col·locació que té un aspecte millor, tenint en compte els valors dels paràmetres. Els valors positius desplacen la lligadura cap amunt, i són adequats a notes que tenen les pliques cap avall. Els valors negatius desplacen les lligadures baixes encara més cap avall.

```
\relative c' {
  \stemDown
  e4( a)
  \override Slur.positions = #'(1 . 1)
  e4( a)
  \override Slur.positions = #'(2 . 2)
  e4( a)
  \override Slur.positions = #'(3 . 3)
  e4( a)
  \override Slur.positions = #'(4 . 4)
  e4( a)
  \override Slur.positions = #'(5 . 5)
  e4( a)
  \override Slur.positions = #'(0 . 5)
  e4( a)
  \override Slur.positions = #'(5 . 0)
  e4( a)
  \stemUp
  \override Slur.positions = #'(-5 . -5)
  e4( a)
  \stemDown
  \revert Slur.positions
  e4( a)
}
```



## Niuat de grups de pentagrames

Es pot utilitzar la propietat `systemStartDelimiterHierarchy` per crear grups de pentagrames niuats de forma més complexa. L'ordre `\set StaffGroup.systemStartDelimiterHierarchy` pren una llista alfabètic del nombre de pentagrames produïts. Es pot proporcionar abans de cada pentagrama un delimitador de començament del sistema. Es pot envoltar entre corxets i admetre tants pentagrames com envoltin els corxets. Es poden ometre els elements de la llista, però el primer corxet sempre abasta tots els pentagrames. Les possibilitats són `SystemStartBar`, `SystemStartBracket`, `SystemStartBrace` i `SystemStartSquare`.

```
\new StaffGroup
\relative c' ' <<
  \override StaffGroup.SystemStartSquare.collapse-height = 4
  \set StaffGroup.systemStartDelimiterHierarchy
    = #'(SystemStartSquare
```

```

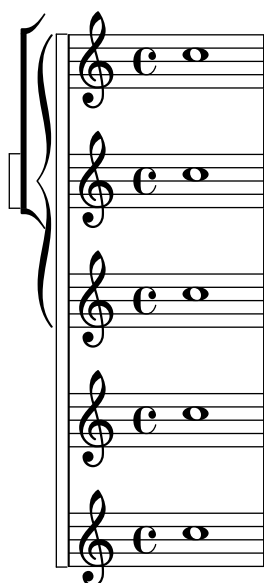
(SystemStartBrace
  (SystemStartBracket a
    (SystemStartSquare b))
  c)
d)

```

```

\new Staff { c1 }
\new Staff { c1 }
\new Staff { c1 }
\new Staff { c1 }
\new Staff { c1 }
>>

```



## Modificació d'articulacions de diversos tipus

A vegades volem modificar un sol temps d'articulació. Tot i que sempre és possible usar l'ordre `\tweak`, podria fer-se tediós fer-lo per a tots i cada un dels símbols d'una partitura completa. L'exemple mostra com ajustar articulacions amb una llista d'ajustaments personalitzats. Un cas seria la creació d'un full d'estils.

Amb 2.16.2 és possible introduir la funció proposada, `\customScripts`, en un bloc `\layout`.

```

#(define (custom-script-tweaks ls)
  (lambda (grob)
    (let* ((type (ly:event-property (ly:grob-property grob 'cause)
                                     'articulation-type))
           (tweaks (assoc-ref ls type)))
      (when tweaks
        (for-each
          (lambda (x) (ly:grob-set-property! grob (car x) (cdr x)))
          tweaks))))))

```

```

customScripts =
#(define-music-function (settings) (list?)
  #{
    \override Script.before-line-breaking =
      #(custom-script-tweaks settings)
  })

```

```

#})
revertCustomScripts = \revert Script.before-line-breaking

% Example

% Predefine two sets of desired tweaks.
#(define my-settings-1
  '((accent . ((font-size . 0)
                (color . (1 0 0))))
    (segno . ((font-size . 0)
              (color . (1 0 0))))
    (staccato . ((color . (1 0 0))
                 (padding . 0.5)))
    (staccatissimo . ((padding . 1)
                      (color . (1 0 0))))
    (tenuto . ((color . (1 0 0))
               (rotation . (45 0 0))
               (padding . 2)
               (font-size . 10)))
  ))

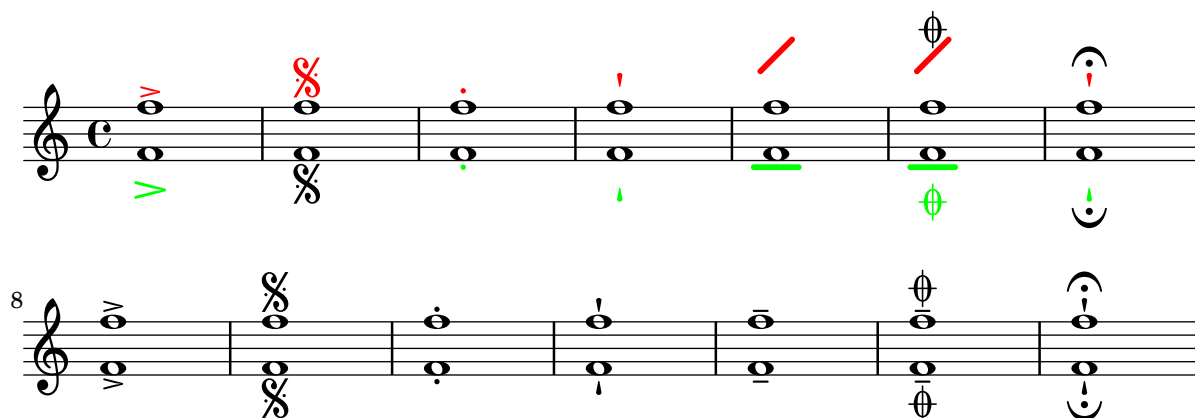
#(define my-settings-2
  '((accent . ((font-size . 4)
                (color . (0 1 0))
                (padding . 1.5)))
    (coda . ((color . (0 1 0))
              (padding . 1)))
    (staccato . ((color . (0 1 0))))
    (staccatissimo . ((padding . 2)
                      (color . (0 1 0))))
    (tenuto . ((color . (0 1 0))
               (font-size . 10)))
  ))

music = { f1-> | f\segno | f-. | f-! | f-- | f--\coda | f-!\fermata | }

block = {
  \music
  \break
  \revertCustomScripts \music
}

\new Staff <<
  \new Voice \with { \customScripts #my-settings-1 }
  \relative c' { \voiceOne \block }
  \new Voice \with { \customScripts #my-settings-2 }
  \relative c' { \voiceTwo \block }
>>

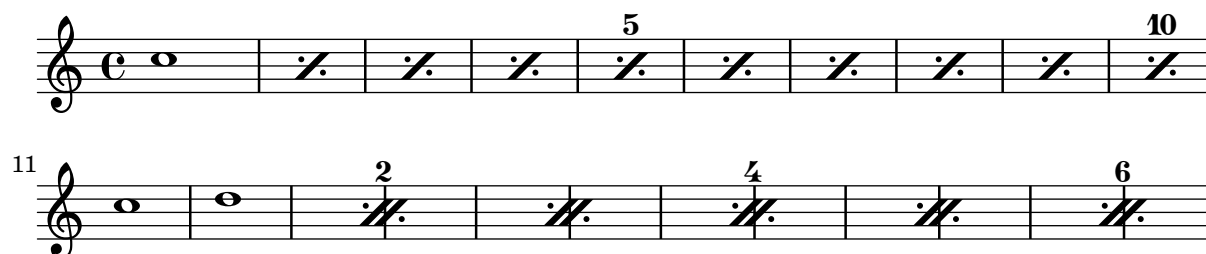
```



## Visibilitat del comptador de repeticions de tipus percentatge

Es poden mostrar els comptadors de les repeticions del tipus percentatge a intervals regulars mitjançant l'establiment de la propietat de context `repeatCountVisibility`.

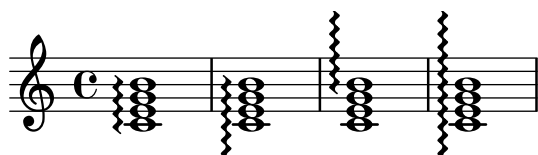
```
\relative c' {
  \set countPercentRepeats = ##t
  \set repeatCountVisibility = #(every-nth-repeat-count-visible 5)
  \repeat percent 10 { c1 } \break
  \set repeatCountVisibility = #(every-nth-repeat-count-visible 2)
  \repeat percent 6 { c1 d1 }
}
```



## Posicionar símbols d'arpegi

Si cal fer més llargs o més curts un símbol d'arpegi, es pot modificar independentment els extrems superior i inferior.

```
\relative c' {
  <c e g b>1\arpeggio
  \once \override Arpeggio.positions = #'(-5 . 0)
  <c e g b>1\arpeggio
  \once \override Arpeggio.positions = #'(0 . 5)
  <c e g b>1\arpeggio
  \once \override Arpeggio.positions = #'(-5 . 5)
  <c e g b>1\arpeggio
}
```



## Posicionament precís d'indicacions de digitació

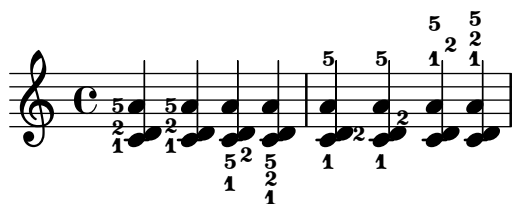
Generalment, les opcions disponibles per a la digitació dels acords funciona bé de forma predefinida, però si una de les indicacions precisa col·locar-se de forma més exacta pot usar-se l'ajustament següent. Això és especialment útil per corregir el posicionat quan hi ha intervals de segona.

```
\markup \with-true-dimensions % work around a cropping issue
\score {
  \relative c' {
    \set fingeringOrientations = #'(left)
    <c-1 d-2 a'-5>4
    <c-1 d-\tweak extra-offset #'(0 . 0.2)-2 a'-5>

    \set fingeringOrientations = #'(down)
    <c-1 d-2 a'-5>
    <c-\tweak extra-offset #'(0 . -1.1)-1
      d-\tweak extra-offset #'(-1.2 . -1.8)-2 a'-5> |

    \set fingeringOrientations = #'(down right up)
    <c-1 d-\tweak extra-offset #'(-0.3 . 0)-2 a'-5>4
    <c-1 d-\tweak extra-offset #'(-1 . 1.2)-2 a'-5>

    \set fingeringOrientations = #'(up)
    <c-1 d-\tweak extra-offset #'(0 . 1.1)-2
      a'-\tweak extra-offset #'(0 . 1)-5>
    <c-1 d-\tweak extra-offset #'(-1.2 . 1.5)-2
      a'-\tweak extra-offset #'(0 . 1.4)-5> |
  }
}
```



## Posicionar els silencis multicompass

A diferència dels silencis normals, no existeix una ordre predefinida per modificar la posició predeterminada d'un símbol de silenci multicompass sobre el pentagrama, adjuntant-lo a una nota, independentment de quin sigui la seva forma. No obstant, en la música polifònica els silencis multicompass de les veus de numeració parell i imparell estan separats verticalment. La col·locació dels silencis multicompass es pot controlar com es ve a continuació:

```
\relative c' {
  % Multi-measure rests by default are set under the fourth line.
  R1
  % They can be moved using an override or tweak.
  \tweak staff-position -2 R1
  \tweak staff-position 0 R1
  \tweak staff-position 2 R1
  \override MultiMeasureRest.staff-position = 3 R1
  \override MultiMeasureRest.staff-position = 6 R1
}
```



```

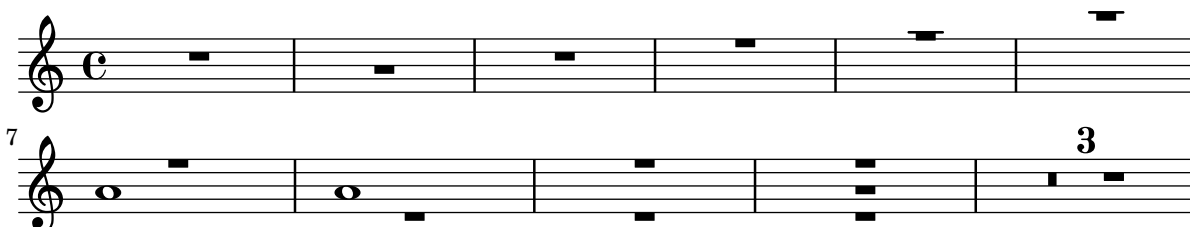
\revert MultiMeasureRest.staff-position
\break

% Odd-numbered voices are under the top line.
<< { R1 } \ { a1 } >>
% Even-numbered voices are under the bottom line.
<< { a1 } \ { R1 } >>
% Multi-measure rests in both voices remain separate.
<< { R1 } \ { R1 } >>

% Separating multi-measure rests in more than two voices
% requires an override or tweak.
<< { R1 } \ { R1 } \ { \tweak staff-position -2 R1 } >>

% Using compressed bars in multiple voices requires another override
% in all voices to avoid multiple instances being printed.
\compressMMRests
<<
  \revert MultiMeasureRest.direction
  { R1*3 } \
  \revert MultiMeasureRest.direction
  { R1*3 }
>>
}

```



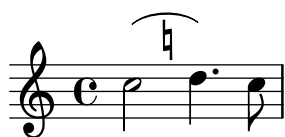
## Situar els elements de marcatge de text por dins de les lligadures

Els elements de marcatge de text han de tenir la propietat `outside-staff-priority` establerta al valor fals perquè s'imprimeixin per dins de les lligadures d'expressió.

```

\relative c' {
  \override TextScript.avoid-slur = #'inside
  \override TextScript.outside-staff-priority = ##f
  c2(~\markup { \halign #-10 \natural } d4.) c8
}

```



## Impressió de nombre de compàs dins de rectangles o circumferències

Els nombres de compàs també es poden imprimir dins de rectangles o de circumferències.

```

\relative c' {

```

```

% Center bar numbers except at the beginning of a staff.
\override Score.BarNumber.self-alignment-X =
  #(break-alignment-list CENTER CENTER 0.3)

% Prevent bar numbers at the end of a line and permit them elsewhere.
\override Score.BarNumber.break-visibility = #end-of-line-invisible

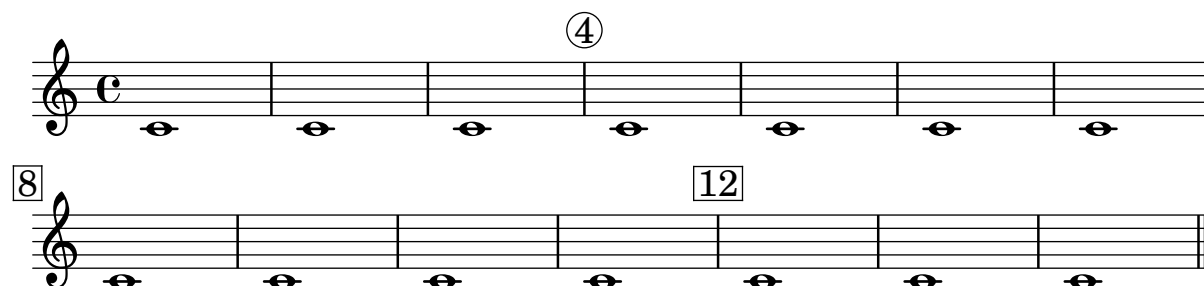
\set Score.barNumberVisibility = #(every-nth-bar-number-visible 4)

% Increase the size of the bar number by 2.
\override Score.BarNumber.font-size = 2

% Draw a circle round the following bar number(s).
\override Score.BarNumber.stencil
  = #(make-stencil-circler 0.1 0.25 ly:text-interface::print)
\repeat unfold 7 { c1 } \break

% Draw a box round the following bar number(s).
\override Score.BarNumber.stencil
  = #(make-stencil-boxer 0.1 0.25 ly:text-interface::print)
\repeat unfold 7 { c1 } \bar "|."
}

```



## Impressió d'indicacions de metrònom i lletres d'assaig a sota del pentagrama

De forma predeterminada, les indicacions de metrònom i les lletres d'assaig s'imprimeixen a sobre del pentagrama. Per col·locar-les a sota del pentagrama, simplement ajustem adequadament la propietat `direction` de `MetronomeMark` o de `RehearsalMark`.

```

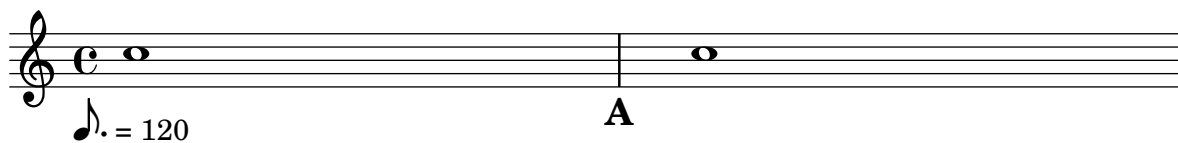
\layout {
  ragged-right = ##f
}

{
  % Metronome marks below the staff
  \override Score.MetronomeMark.direction = #DOWN
  \tempo 8. = 120
  c''1

  % Rehearsal marks below the staff
  \override Score.RehearsalMark.direction = #DOWN
  \mark \default
  c''1
}

```

}



## Impressió dels noms de les notes amb o sense indicació de l'octava

Es pot usar el context `NoteNames` per imprimir el valor textual de les notes. La propietat `printOctaveNames` activa o desactiva la representació de l'octava de les notes.

```
scale = \relative c' {
  a4 b c d
  e4 f g a
}
```

```
\new Staff {
  <<
    \scale
    \context NoteNames {
      \set printOctaveNames = ##f
    }
  >>
  R1
  <<
    \scale
    \context NoteNames {
      \set printOctaveNames = ##t
    }
  >>
}
```

```
\layout {
  \context {
    \NoteNames
    % Allow vertical overlapping of different `NoteNames` contexts
    % to make them appear as if they were a single line.
    \override VerticalAxisGroup
      .nonstaff-nonstaff-spacing
      .minimum-distance = ##f
  }
}
```



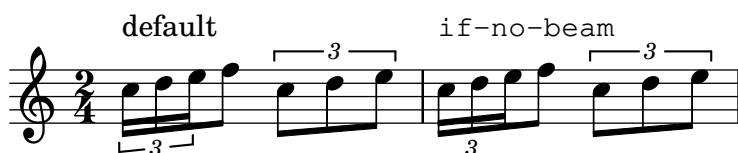
## Printing tuplet brackets on the note head side

Whichever option you choose for controlling the tuplet bracket visibility, it will show or hide the tuplet bracket irrespectively of tuplet bracket placement (stem side or note head side). However, when placing the tuplet bracket on the note head side some authors recommend always printing the tuplet bracket. The option `visible-over-note-heads` can be used to achieve this.

```
music = \relative c'' {
  \tupletNeutral \tuplet 3/2 { c16[ d e ] f8]
  \tupletUp \tuplet 3/2 { c8 d e }
}

\new Voice {
  \relative c' {
    \override TextScript.staff-padding = #2.5

    \time 2/4
    \override TupletBracket.visible-over-note-heads = ##t
    \override Score.TextMark.non-musical = ##f
    <>^\markup "default" \music
    \override TupletBracket.bracket-visibility = #'if-no-beam
    <>^\markup \typewriter "if-no-beam" \music
  }
}
```



## Espaiat de les notes estrictament proporcional

Si s'ha establert `strict-note-spacing`, l'espaiat de les notes no es veu influït pels compassos o claus que pugui haver-hi dins d'un sistema. En comptes d'això, es col·loquen just abans de la nota que té lloc en el mateix moment temporal. Això pot produir col·lisions.

```
\relative c'' <<
  \override Score.SpacingSpanner.strict-note-spacing = ##t
  \set Score.proportionalNotationDuration = #1/16

  \new Staff {
    c8[ c \clef alto c c \grace { d16 } c8 c] c4
    c2 \grace { c16[ c16] } c2
  }
  \new Staff {
    c2 \tuplet 3/2 { c8 \clef bass cis,, c } c4
    c1
  }
  >>
```



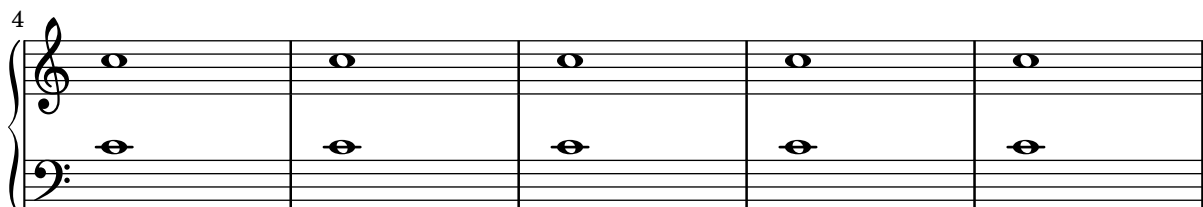
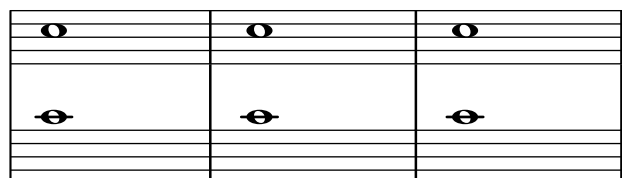
## Removing brace on first line of piano score

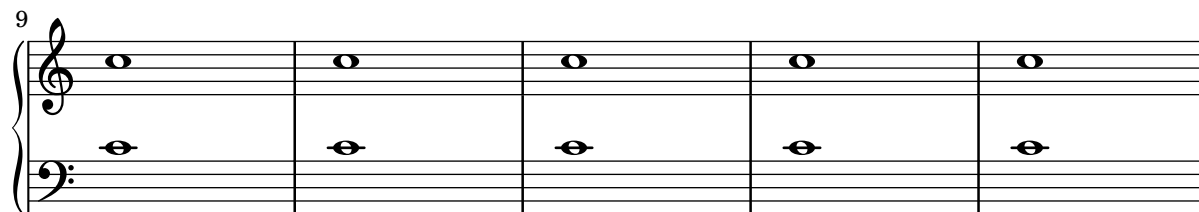
This snippet removes the first brace from a `PianoStaff` or a `GrandStaff`, together with the clefs. It may be useful when cutting and pasting the engraved image into existing music.

The code uses `\alterBroken` to hide the brace delimiter at the beginning.

```
someMusic = {
  \once \omit Staff.Clef
  \once \omit Staff.TimeSignature
  \repeat unfold 3 c1 \break
  \repeat unfold 5 c1 \break
  \repeat unfold 5 c1
}

\score {
  \new PianoStaff
  <<
    \new Staff = "right" \relative c' { \someMusic
    \new Staff = "left" \relative c' { \clef F \someMusic }
  >>
  \layout {
    indent=75\mm
    \context {
      \PianoStaff
      \alterBroken transparent #'(#t) SystemStartBrace
    }
  }
}
```

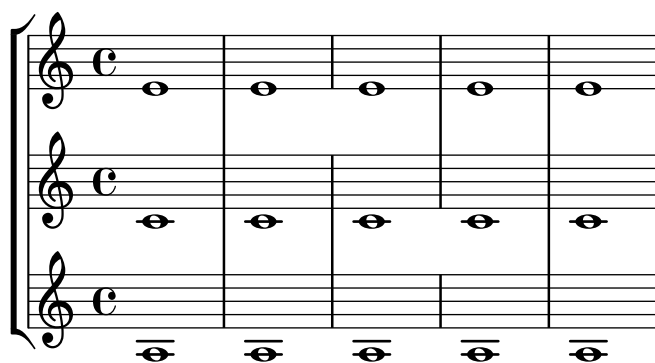




## Treure les barres de compàs entre els pentagrames d'un StaffGroup PianoStaff o GrandStaff

De forma predeterminada, les línies divisòries als grups StaffGroup, PianoStaff o GrandStaff es connecten entre els pentagrames. Es pot alterar aquest comportament pentagrama a pentagrama.

```
\relative c' {
  \new StaffGroup <<
    \new Staff {
      e1 | e
      \once \override Staff.BarLine.allow-span-bar = ##f
      e1 | e | e
    }
    \new Staff {
      c1 | c | c
      \once \override Staff.BarLine.allow-span-bar = ##f
      c1 | c
    }
    \new Staff {
      a1 | a | a | a | a
    }
  >>
}
```



## Supressió de la primera línia buida

El primer pentagrama buit també es pot suprimir de la partitura establint la propietat `remove-first` de `VerticalAxisGroup`. Això es pot fer globalment dins del bloc `\layout`, o localment dins del pentagrama concret que es vol suprimir. En aquest últim cas, hem d'especificar el context (Staff s'aplica sols al pentagrama actual) davant de la propietat.

El pentagrama inferior del segon grup no s'elimina, perquè l'ajustament sols s'aplica al pentagrama concret dins del que s'escriu.

```
\layout {
  \context {
```

```

\Staff \RemoveEmptyStaves
% To use the setting globally, uncomment the following line:
% \override VerticalAxisGroup.remove-first = ##t
}
}
\new StaffGroup <<
  \new Staff \relative c' {
    e4 f g a \break
    c1
  }
  \new Staff {
    % To use the setting globally, comment this line,
    % uncomment the line in the \layout block above
    \override Staff.VerticalAxisGroup.remove-first = ##t
    R1 \break
    R
  }
>>

```

```

\new StaffGroup <<
  \new Staff \relative c' {
    e4 f g a \break
    c1
  }
  \new Staff {
    R1 \break
    R
  }
>>

```

## Estils de silencis

Els silencis es poden imprimir en diferents estils.

```
restsA = {
```

```

r\maxima r\longa r\breve r1 r2 r4 r8 r16 s32
s64 s128 s256 s512 s1024 s1024
}
restsB = {
  r\maxima r\longa r\breve r1 r2 r4 r8 r16 r32
  r64 r128 r256 r512 r1024 s1024
}

\new Staff \relative c {
  \omit Score.TimeSignature
  \cadenzaOn

  \override Staff.Rest.style = #'mensural
  <>^\markup \typewriter { mensural } \restsA \bar "" \break

  \override Staff.Rest.style = #'neomensural
  <>^\markup \typewriter { neomensural } \restsA \bar "" \break

  \override Staff.Rest.style = #'classical
  <>^\markup \typewriter { classical } \restsB \bar "" \break

  \override Staff.Rest.style = #'z
  <>^\markup \typewriter { z-style } \restsB \bar "" \break

  \override Staff.Rest.style = #'default
  <>^\markup \typewriter { default } \restsB \bar "" \break
}

```

The image displays five musical staves, each illustrating a different rest style. Each staff begins with a treble clef and a common time signature (C). The staves are labeled as follows:

- mensural:** Shows rests as horizontal lines of varying lengths on the staff.
- neomensural:** Shows rests as vertical lines of varying heights on the staff.
- classical:** Shows rests as vertical lines of varying heights, with some rests having a 'z' symbol above them.
- z-style:** Shows rests as vertical lines of varying heights, with some rests having a 'z' symbol above them.
- default:** Shows rests as vertical lines of varying heights, with some rests having a 'z' symbol above them.

## Barres rítmiques

Als fulls guia d'acords o fulls guia “senzilles”, a vegades no s'imprimeix realment cap nota, i en el seu lloc es fa una notació que té sols “patrons rítmics” i acords a sobre dels compassos, donant l'estructura de la cançó. Aquesta funcionalitat és útil, per exemple, en crear o transcriure



l'estructura d'una cançó i també si es volen compartir els fulls guia amb guitarristes o músics de jazz. La forma estàndard en la qual hi ha suport per a aquesta modalitat usant `\repeat percent` no és adequada aquí perquè el primer compàs hauria de ser una nota o silenci normals. Aquest exemple mostra dues solucions al problema, redefinint els silencis normals perquè s'imprimeixin com a barres inclinades (si la duració de cada pols no és una negra, substituïrem el `r4` que apareix a les definicions amb un silenci de la duració adequada).

```
startPat = {
  \improvisationOn
  \omit Stem
}
stopPat = {
  \improvisationOff
  \undo \omit Stem
}

\new Voice \with {
  \consists Pitch_squash_engraver
} {
  c'4 d' e' f' |
  \startPat
  4 4 4 4 |
  \stopPat
  f'4 e' d' c'
}
```



## Separar les cancel·lacions de tonalitat dels canvis d'armadura

De forma predeterminada, les alteracions accidentals que s'usen per a les cancel·lacions a les armadures es col·loquen adjacents a les que s'usen per als canvis de tonalitat. Aquest comportament es pot canviar sobreescrivint la propietat `'break-align-orders` de l'objecte gràfic `BreakAlignment`.

El valor de `'break-align-orders` és un vector de longitud 3, amb llistes entre cometes els elements de les quals són objectes que es poden dividir en un salt. Aquest exemple sols modifica la segona llista, movent `key-cancellation` abans de `staff-bar`; modificant la segona llista, el comportament d'alineació dels salts canvia en la meitat d'un sistema, no al principi ni al final.

```
#(define (insert-before where what lst)
  (cond
    ((null? lst) ; If the list is empty,
     (list what)) ; return a single-element list.
    ((eq? where (car lst)) ; If we find symbol `where`,
     (cons what lst)) ; insert `what` before curr. position.
    (else ; Otherwise keep building the list by
     (cons (car lst) ; adding the current element and
            ; recursing with the next element.
            (insert-before where what (cdr lst))))))
```

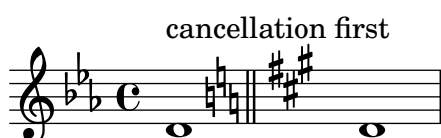
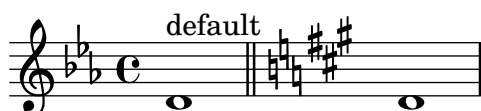
```
cancellationFirst =
\override Score.BreakAlignment.break-align-orders =
```

```
#(grob-transformer
  'break-align-orders
  (lambda (grob orig)
    (let* ((middle (vector-ref orig 1))
           (middle (delq 'key-cancellation middle))
           (middle (insert-before
                      'staff-bar 'key-cancellation middle)))
      (vector
        ;; end of line
        (vector-ref orig 0)
        ;; middle of line
        middle
        ;; beginning of line
        (vector-ref orig 2))))))
```

```
music = { \key es \major d'1 \bar "||"
          \key a \major d'1 }
```

```
{ <>^\markup "default"
  \music }
```

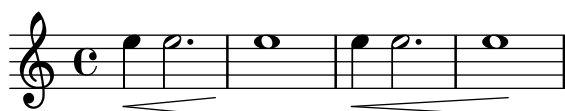
```
{ <>^\markup "cancellation first"
  \cancellationFirst
  \music }
```



## Establir el comportament dels reguladors a les barres de compàs

Si la nota que acaba un regulador cau sobre la primera part d'un compàs, el regulador s'atura en la línia divisòria immediatament precedent. Es pot controlar aquest comportament sobreescrivint la propietat `'to-barline`.

```
\relative c' ' {
  e4\< e2.
  e1\!
  \override Hairpin.to-barline = ##f
  e4\< e2.
  e1\!
}
```



## Fixació d'un separador entre els sistemes

Es poden inserir separadors de sistema entre els sistemes d'una pàgina. Es pot usar qualsevol element de marcatge, però hi ha `\slashSeparator` com una elecció predeterminada adequada.

```

\set-default-paper-size "a5")

```

```

\paper {
  system-separator-markup = \slashSeparator
  tagline = ##f
}

```

```

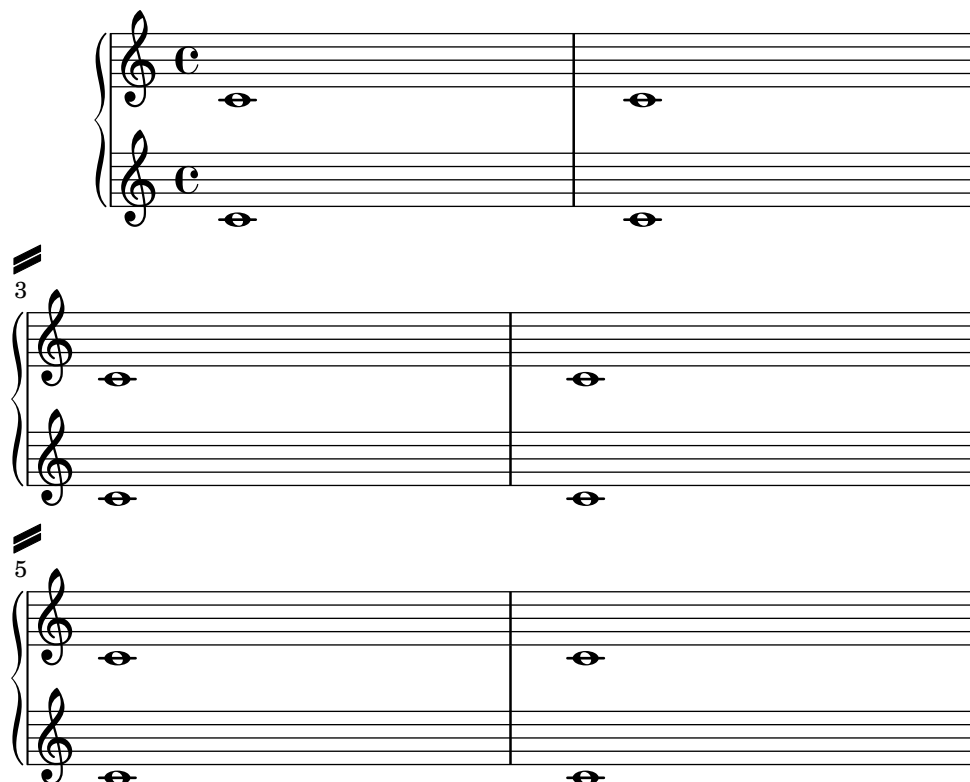
notes = \relative c' {
  c1 | c \break
  c1 | c \break
  c1 | c
}

```

```

\book {
  \score {
    \new GrandStaff <<
      \new Staff \notes
      \new Staff \notes
    >>
  }
}

```



## Shape individual ties in chords

To shape individual ties in chords use the method demonstrated below.

```

{

```

```

\textMark "Chords can be tied note by note."
<c'~ e'~ g'~ c''~>2 q
}

{
\textMark \markup \override #'(baseline-skip . 3) \wordwrap {
  Modifying those ties with \typewriter "\\shape" does not succeed,
  because \typewriter TieColumn positions them on its own behalf,
  ignoring \typewriter "\\shape" input more or less. You may
  circumvent this by setting \typewriter positioning-done to
  \typewriter "#t" -- alas, \typewriter positioning-done is an
  internal property, and setting it to \typewriter "#t" means: all
  positioning is done, don't do anything further. The next example
  demonstrates a case where the positioning is not finished: all tie
  directions are down, and the thickness is not accurate.
}
<c'~ e'~ g'~ c''~>2
\once \override TieColumn.positioning-done = ##t
q
}

{
\textMark "To fix that, enter ties with explicit direction modifiers."
<c'_~ e'_~ g'_~ c''^~>2
\once \override TieColumn.positioning-done = ##t
q
}

{
\textMark \markup {
  Now you can use \typewriter "\\shape" for each tie as usual. }
<c'-\shape #'((0 . 0) (0 . -10) (0 . -10) (0 . 0)) _~
e'-\shape #'((0 . 0) (0 . -5) (0 . -5) (0 . 0)) _~
g'-\shape #'((0 . 0) (0 . -2) (0 . -2) (0 . 0)) _~
c''-\shape #'((0 . 0) (0 . 5) (0 . 5) (0 . 0)) ^~
>2
\once \override TieColumn.positioning-done = ##t
q
}

{
\textMark "This also works at line breaks."
<c'-\shape #'(((0 . 0) (0 . -10) (0 . -10) (0 . 0))
              ((0 . 0) (0 . -10) (0 . -10) (0 . 0))) _~
e'-\shape #'(((0 . 0) (0 . -5) (0 . -5) (0 . 0))
              ((0 . 0) (0 . -5) (0 . -5) (0 . 0))) _~
g'-\shape #'(((0 . 0) (0 . -2) (0 . -2) (0 . 0))
              ((0 . 0) (0 . -2) (0 . -2) (0 . 0))) _~
c''-\shape #'(((0 . 0) (0 . 5) (0 . 5) (0 . 0))
              ((0 . 0) (0 . 5) (0 . 5) (0 . 0))) ^~
>2
\break

```

```

\once \override TieColumn.positioning-done = ##t
q
}

{
\textMark \markup {
  It also works with the \typewriter tieWaitForNote property. }
\set tieWaitForNote = ##t
c'4-\shape #'((0 . 0) (0 . -10) (0 . -10) (0 . 0)) _~
e'4-\shape #'((0 . 0) (0 . -5) (0 . -5) (0 . 0)) _~
g'4-\shape #'((0 . 0) (0 . -2) (0 . -2) (0 . 0)) _~
c''4-\shape #'((0 . 0) (0 . 5) (0 . 5) (0 . 0)) ^~
\once \override TieColumn.positioning-done = ##t
<c' e' g' c''>1
}

\layout {
  indent = 0
  \context {
    \Score
    \override TextMark.padding = #4
    \override TextMark.break-align-symbols = #'(left-edge)
  }
}

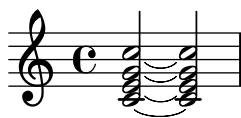
\paper {
  score-system-spacing.padding = 3
}

```

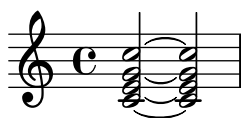
Chords can be tied note by note.



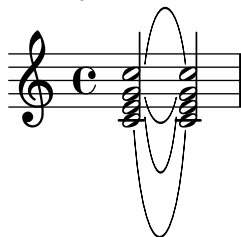
Modifying those ties with `\shape` does not succeed, because `TieColumn` positions them on its own behalf, ignoring `\shape` input more or less. You may circumvent this by setting `positioning-done` to `#t` – alas, `positioning-done` is an internal property, and setting it to `#t` means: all positioning is done, don't do anything further. The next example demonstrates a case where the positioning is not finished: all tie directions are down, and the thickness is not accurate.



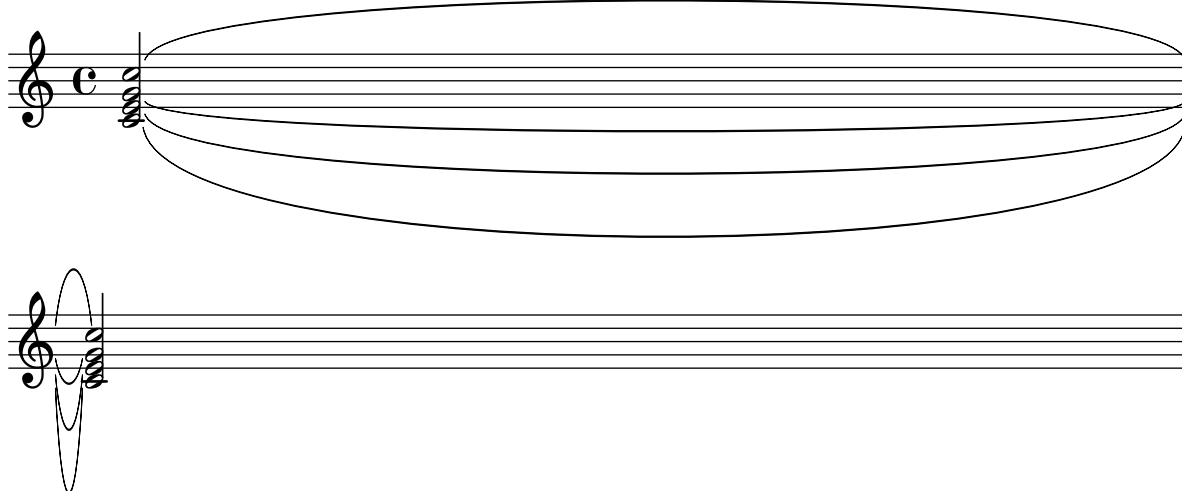
To fix that, enter ties with explicit direction modifiers.



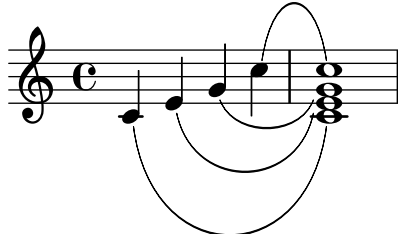
Now you can use `\shape` for each tie as usual.



This also works at line breaks.



It also works with the `tieWaitForNote` property.



## Impressió de la mateixa articulació a sobre i a sota de la mateixa nota o acord

De forma predeterminada, el LilyPond no permet posar la mateixa articulació (per exemple un accent, un calderó, un cercle d'harmònic, etc.) a sobre i a sota de la nota. Per exemple, `c4_\fermata^\fermata` imprimeix sols el calderó inferior. El calderó superior senzillament s'ignora. No obstant, es poden adjuntar inscripcions (de igual forma que les digitacions) dins d'un acord, soca que significa que és possible tenir tantes articulacions com es vulgui. Aquest enfocament té l'avantatge que ignora la plica i posiciona l'articulació de forma relativa al cap de la nota. Pot veure's això en el cas dels flageolets (indicacions d'harmònic)) que apareixen en el fragment de codi. Per recrear el comportament de les inscripcions fora de l'acord, es requereix `'add-stem-support`. D'aquesta manera la solució consisteix en escriure la nota com un acord i afegir les articulacions dins dels parèntesis en angle `<...>`. La direcció sempre serà cap a dalt, però podem retocar això per mitjà d'una ordre `\tweak`: `<c-\tweak direcció #DOWN-\fermata^\fermata>`

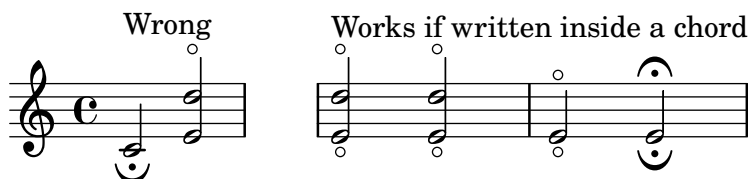
```
\relative c' {
  <>^\fermata^\fermata % The second fermata is ignored!
  <e d'>2^\flageolet_\flageolet
```

```

\stopStaff s1 \startStaff

<>^"Works if written inside a chord"
<e_\flageolet d'\flageolet>2
<e_\flageolet d'\flageolet>2
<e_\flageolet^\flageolet>2
<e_\fermata^\fermata>2
}

```



## Línies d'extensió per a nombre de corda

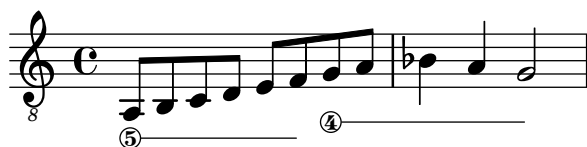
Fem una línia extensora per a les indicacions de nombre de corda, mostrant que una sèrie de notes s'han de tocar sobre la mateixa corda.

```

stringNumberSpanner =
  #(define-music-function (StringNumber) (string?)
    #{
      \override TextSpanner.style = #'solid
      \override TextSpanner.font-size = #-5
      \override TextSpanner.bound-details.left.stencil-align-dir-y = #CENTER
      \override TextSpanner.bound-details.left.text =
        \markup { \circle \number $StringNumber }
    #})

\relative c {
  \clef "treble_8"
  \textSpannerDown
  \stringNumberSpanner "5" a8\startTextSpan b c d
  e f\stopTextSpan \stringNumberSpanner "4" g\startTextSpan a |
  bes4 a g2\stopTextSpan
}

```



## Evitar els advertiments sobre columnes de notes que xoquen

Si es col·loquen sobre la mateixa posició notes de dues veus diferents amb les pliques en la mateixa direcció, i cap de les veus té un desplaçament o ambdues tenen el mateix desplaçament, apareix el missatge d'error 'advertiment: massa columnes de notes en col·lisió, s'ignora' en compilar el fitxer del LilyPond. Aquest missatge es pot evitar fixant la propietat 'ignore-collision' de l'objecte NoteColumn al valor #t. Observeu que això no elimina sols els advertiments, sinó que fa que el LilyPond deixi d'intentar resoldre les col·lisions en absolut, per la qual cosa poden obtenir-se resultats diferents dels esperats si no s'usa amb prudència.

```
ignore = \override NoteColumn.ignore-collision = ##t
```

```
\relative c' {
  \new Staff <<
    \new Voice { \ignore \stemDown f2 g }
    \new Voice { c2 \stemDown c, }
  >>
}
```



## Time signature in brackets

The time signature can be enclosed within brackets.

```
\relative c' {
  \override Staff.TimeSignature.stencil = #(lambda (grob)
    (bracketify-stencil (ly:time-signature::print grob) Y 0.1 0.2 0.1))
  \time 2/4
  a4 b8 c
}
```



## Compàs entre parèntesis

La indicació de compàs pot envoltar-se entre parèntesi.

```
\relative c' {
  \override Staff.TimeSignature.stencil = #(lambda (grob)
    (parenthesize-stencil (ly:time-signature::print grob) 0.1 0.4 0.4 0.1))
  \time 2/4
  a4 b8 c
}
```



## Indicació de compàs imprimint sols el numerador (en lloc de la fracció)

A vegades, la indicació de compàs no ha d'imprimir la fracció completa (per exemple 7/4), sinó sols el numerador (7 en aquest cas). Això es pot fer fàcilment utilitzant `\override Staff.TimeSignature.style = #'single-number` per canviar l'estil permanentment. Usant `\revert Staff.TimeSignature.style`, es pot revertir el canvi. Per aplicar l'estil d'un dígit únic a una sola indicació de compàs, utilitzeu l'ordre `\override` i anteposeu l'ordre `\once`.

```
\relative c' {
  \time 3/4
  c4 c c
  % Change the style permanently
  \override Staff.TimeSignature.style = #'single-number
```



```

\time 2/4
c4 c
\time 3/4
c4 c c
% Revert to default style:
\revert Staff.TimeSignature.style
\time 2/4
c4 c
% single-number style only for the next time signature
\tweak style #'single-number \time 5/4
c4 c c c c
\time 2/4
c4 c
}

```



## Tuplet bracket and change staff

This snippet shows how to set a tuplet starting in a lower staff and finishing in the upper one.

```

aigues = \relative c' {
  \time 6/8
  s4. \stemDown c16[ bes' e] \stemUp g c e \stemDown |
  g8
}

basses = \relative c {
  \time 3/4
  \clef F
  \tweak positions #'(4.5 . 8.5)
  \tweak edge-height #'(1 . -1)
  \tuplet 7/6 { c16[ bes' e] \change Staff = md \stemUp g[ c e g] } s4. |
  s8
}

\new PianoStaff \with { \omit TimeSignature }
<<
  \new Staff = md \aigues
  \new Staff = mg \basses
>>

```



## Ajustament de les propietats de clau

La modificació del glif de la clau, la seva posició o octava, no canvien 'per se' la posició de les notes següents del pentagrama. Per aconseguir armadures adequades de tonalitat sobre les línies del pentagrama, s'ha d'especificar també `middleCClefPosition`, amb valor positiu o negatiu que moguin Do central cap amunt o cap avall, respectivament, en relació amb la línia central del pentagrama (usualment la tercera).

Per exemple, l'ordre `\clef "treble_8"` equival a un ajustament de `clefGlyph`, `clefPosition` (que controla la posició vertical de la clau sobre el pentagrama), `middleCPosition` i `clefTransposition`. Se imprimeix la clau cada cop que es modifica qualsevol de les propietats excepte `middleCPosition`.

Els exemple següents mostren les possibilitats quan s'ajusten aquestes propietats manualment. En la primera línia, els canvis manuals preserven la posició relativa estàndard de les clau i les notes, però no ho fan a la segona línia.

```
{
% The default treble clef.
\key f \major
c'1
% The standard bass clef
\set Staff.clefGlyph = "clefs.F"
\set Staff.clefPosition = 2
\set Staff.middleCPosition = 6
\set Staff.middleCClefPosition = 6
\key g \major
c'1
% The baritone clef.
\set Staff.clefGlyph = "clefs.C"
\set Staff.clefPosition = 4
\set Staff.middleCPosition = 4
\set Staff.middleCClefPosition = 4
\key f \major
c'1
% The standard choral tenor clef.
\set Staff.clefGlyph = "clefs.G"
\set Staff.clefPosition = -2
\set Staff.clefTransposition = -7
\set Staff.middleCPosition = 1
\set Staff.middleCClefPosition = 1
\key f \major
c'1
% A non-standard clef.
\set Staff.clefPosition = 0
\set Staff.clefTransposition = 0
\set Staff.middleCPosition = -4
\set Staff.middleCClefPosition = -4
\key g \major
c'1 \break

% The following clef changes do not preserve
% the normal relationship between notes, key signatures
% and clefs.
\set Staff.clefGlyph = "clefs.F"
```

```

\set Staff.clefPosition = 2
c'1
\set Staff.clefGlyph = "clefs.G"
c'1
\set Staff.clefGlyph = "clefs.C"
c'1
\set Staff.clefTransposition = 7
c'1
\set Staff.clefTransposition = 0
\set Staff.clefPosition = 0
c'1

% Return to the normal clef.
\set Staff.middleCPosition = 0
c'1
}

```



## Ajustament de la disposició de les notes d'adorn dins de la música

La disposició de les expressions d'adorn es pot canviar al llarg de tota la música usant les funcions `add-grace-property` i `remove-grace-property`. L'exemple següent esborra la definició de la direcció de la plica per a aquest nota d'adorn, de manera que les pliques no sempre apunten cap a dalt, i canvia la forma predeterminada dels caps a aspes.

```

\relative c' {
  \new Staff {
    $(remove-grace-property 'Voice 'Stem 'direction)
    $(add-grace-property 'Voice 'NoteHead 'style 'cross)
    \new Voice {
      \acciaccatura { f16 } g4
      \grace { d16 e } f4
      \appoggiatura { f,32 g a } e2
    }
  }
}

```



## Ús d'estils alternatius per als corxets

Es poden imprimir estils alternatius del corxet o ganxo de les corxeres i figures menors, mitjançant la sobreescritura de la propietat `stencil` de l'objecte `Flag`. Són valors vàlids `modern-straight-flag`, `old-straight-flag` i `flat-flag`.

```

"@ =
#(define-music-function (music) (ly:music?)
  #{ \set stemLeftBeamCount = 0 $music [] #})

testnotes = {
  \autoBeamOff
  c8 d16 e''32 f64 \acciaccatura { g,,,8 } a128 b
}

\relative c' {
  \override TextScript.staff-padding = 6
  \time 1/4
  <>^"default" \testnotes
  \override Flag.stencil = #modern-straight-flag
  <>_"modern straight" \testnotes
  \override Flag.stencil = #old-straight-flag
  <>^"old straight" \testnotes
  \override Flag.stencil = #flat-flag
  <>_"flat" \testnotes
  \revert Flag.stencil

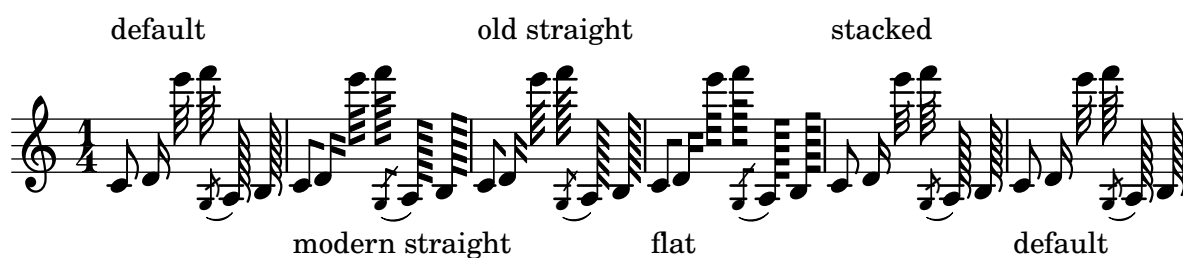
  \flagStyleStacked
  <>^"stacked" \testnotes
  \flagStyleDefault
  <>_"default" \testnotes
}

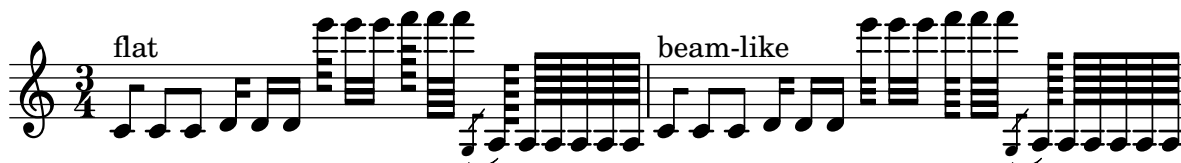
\relative c' {
  \time 3/4
  \override Flag.stencil = #flat-flag

  <>^"flat" c8 c[ c] d16 d[ d] e''32 e[ e] f64 f[ f]
  \acciaccatura { g,,,8 } a128 a[ a a a a]
  <>^"beam-like" @c8 c[ c] @d16 d[ d] @e''32 e[ e] @f64 f[ f]
  \acciaccatura { g,,,8 } @a128 a[ a a a a]
}

\layout {
  indent = 0
  \context {
    \Score
    \override NonMusicalPaperColumn.line-break-permission = ##f
  }
}

```





## Utilitzar ly:grob-object per accedir als grobs amb \tweak

Es pot accedir "lateralment" a alguns grobs des de dins de la funció de callback d'un altre grob. Aquests es troben relacionats normalment com "layout objects" (objectes de presentació) en la secció "Internal properties" (propietats internes) d'una interfície de grob. S'usa la funció ly:grob-object per a accedir a aquests grobs.

Es presenten més avall com a exemple algunes formes d'accedir a grobs des de dins d'una funció de callback de NoteHead, però la tècnica no es limita als caps de nota. No obstant, la funció de callback de NoteHead és especialment important, perquè és la funció de callback implícita que utilitza l'ordre \tweak.

La funció d'exemple que es defineix sota ("display-grobs") no és probablement tan útil, però mostra que s'està accedint efectivament als grobs.

Sortida d'exemple de la consola:

```

-----
#-Grob Accidental -
#-Grob Arpeggio -
#-Grob Stem -

#(define (notehead-get-accidental notehead)
  ;; notehead is grob
  (ly:grob-object notehead 'accidental-grob))

#(define (notehead-get-arpeggio notehead)
  ;; notehead is grob
  (let ((notecolumn (notehead-get-notecolumn notehead)))
    (ly:grob-object notecolumn 'arpeggio)))

#(define (notehead-get-notecolumn notehead)
  ;; notehead is grob
  (ly:grob-parent notehead X))

#(define (notehead-get-stem notehead)
  ;; notehead is grob
  (let ((notecolumn (notehead-get-notecolumn notehead)))
    (ly:grob-object notecolumn 'stem)))

#(define (display-grobs notehead)
  ;; notehead is grob
  (let ((accidental (notehead-get-accidental notehead))
        (arpeggio (notehead-get-arpeggio notehead))
        (stem (notehead-get-stem notehead)))
    (format (current-error-port) "~2&~a\n" (make-string 20 #\~))
    (for-each
      (lambda (x) (format (current-error-port) "~a\n" x))
      (list accidental arpeggio stem))))

\relative c' {

```

```

%% display grobs for each note head:
%\override NoteHead.before-line-breaking = #display-grobs
<c
%% or just for one:
\tweak before-line-breaking #display-grobs
es
g>1\arpeggio
}

```



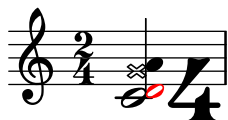
## Ús de l'ordre `\tweak` per retocar objectes gràfics individuals

Amb l'ordre d'ajustament `\tweak` tots els objectes gràfics es poden retocar directament. Aquí presentem exemples dels tipus de retocament disponibles.

```

\relative c' {
  \time 2/4
  \set fingeringOrientations = #'(right)
  <
    \tweak font-size #3 c
    \tweak color #red d-\tweak font-size #8 -4
    \tweak style #'cross g
    \tweak duration-log #2 a
  >2
}

```



## Indicacions dinàmiques i textuais alineades verticalment

Tots els objectes `DynamicLineSpanner` (reguladors i indicacions dinàmiques de text) se situen amb la seva línia de referència a una distància d'almenys `'staff-padding` del pentagrama, a no ser que d'altres elements de notació els forci a col·locar-se a més distància. Si s'ajusta `'staff-padding` a un valor suficientment gran, les indicacions dinàmiques quedaran alineades.

S'usa una idea semblant junt a `\textLengthOn` per alinear les inscripcions de text al llarg de la seva línia de base.

```

music = \relative c' {
  a'2\p b\f
  e4\p f\f\> g, b\p
  c2^\markup { \huge gorgeous } c^\markup { \huge fantastic }
}

{
  \music
  \break
  \override DynamicLineSpanner.staff-padding = 3
  \textLengthOn
  \override TextScript.staff-padding = 1
}

```

```
\music
}
```

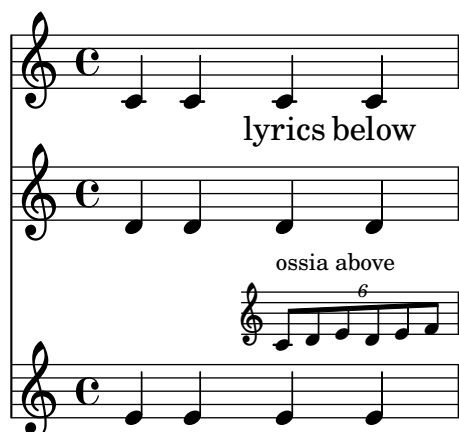


## Alineació vertical de la lletra i els compassos d'ossia

Aquest fragment de codi mostra l'ús de les propietats de context `alignBelowContext` i `alignAboveContext` per a controlar la posició de la lletra i els compassos d'ossia.

```
\relative c' <<
  \new Staff = "1" { c4 c c c }
  \new Staff = "2" { d4 d d d }
  \new Staff = "3" { e4 e e e }

  { \skip 2
    <<
      \lyrics {
        \set alignBelowContext = "1"
        lyrics4 below
      }
      \new Staff \with {
        alignAboveContext = "3"
        fontSize = -2
        \override StaffSymbol.staff-space = #(magstep -2)
        \remove "Time_signature_engraver"
        \override VerticalAxisGroup.staff-staff-spacing =
          #'((minimum-distance . 0)
            (basic-distance . 0)
            (padding . 1))
      } {
        \tuplet 6/4 {
          \override TextScript.padding = 2
          c8[~"ossia above" d e d e f]
        }
      }
    }
  }
  >>
}
```



## Vertically aligning stanza numbers of different staves

It can happen that stanza numbers don't align vertically if the verses are attached to different staves. To fix that, override the `self-alignment-X` property of the `LyricText` grob.

```
\markup { default behavior }
```

```
<<
  \new Staff { b b b b }
  \lyrics {
    \set stanza = "3."
    a a a a
  }
```

```

  \new Staff { b b b b }
  \lyrics {
    \set stanza = "1."
    aaaaaaaaaa a a a
  }
  \lyrics {
    \set stanza = "2."
    a a a a
  }
>>
```

```
\markup \vspace #1
\markup {
  using \typewriter "self-alignment-X = #LEFT" }
```

```
<<
  \new Staff { b b b b }
  \new Lyrics \lyricmode {
    \set stanza = "3."
    a a a a
  }

  \new Staff { b b b b }
  \new Lyrics \lyricmode {
    \set stanza = "1."
    \once \override LyricText.self-alignment-X = #LEFT
```



```

      aaaaaaaaa a a a
    }
    \new Lyrics \lyricmode {
      \set stanza = "2."
      a a a a
    }
  >>

```

default behavior



using self-alignment-X = #LEFT



## Centrat vertical de les línies de baix xifrat emparellades

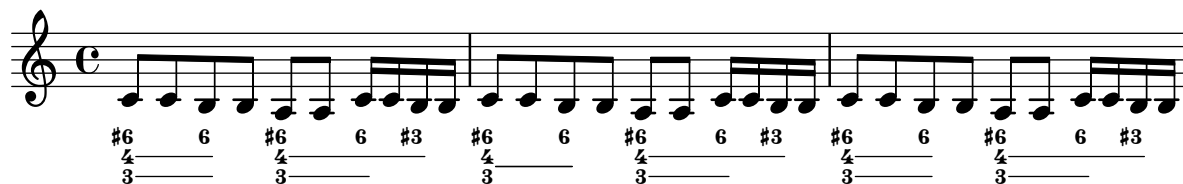
Al lloc on s'utilitzin línies extensores per al baix xifrat mitjançant l'establiment de `useBassFigureExtenders` al valor vertader, les parelles de línies extensores congruents se centren verticalment si el valor de `figuredBassCenterContinuations` té el valor vertader.

```

<<
\relative c' {
  \repeat unfold 3 {
    c8 c b b a a c16 c b b
  }
}
\figures {
  \set useBassFigureExtenders = ##t
  <6+ 4 3>4 <6 4 3>8 r
  <6+ 4 3>4 <6 4 3>8 <4 3+>16 r
  \set figuredBassCenterContinuations = ##t
  <6+ 4 3>4 <6 4 3>8 r
  <6+ 4 3>4 <6 4 3>8 <4 3+>16 r
  \set figuredBassCenterContinuations = ##f
  <6+ 4 3>4 <6 4 3>8 r
}

```

<6+ 4 3>4 <6 4 3>8 <4 3+>16 r  
}  
>>



## 20 Paper and layout

See also Secció “Spacing issues” in *Referencia de la Notación*.

### Alinear i centrar els noms dels instruments

L’alineació horitzontal dels noms d’instruments es pot ajustar modificant la propietat `Staff.InstrumentName #'self-alignment-X`. Les variables de `\layout`, `indent` i `short-indent` defineixen l’espai en el qual s’alineen els noms d’instrument abans del primer sistema i dels següents, respectivament.

```
\paper {
  left-margin = 3\cm
}

\new StaffGroup <<
  \new Staff \with {
    \override InstrumentName.self-alignment-X = #LEFT
    instrumentName = \markup \left-column { "Left aligned"
                                             "instrument name" }

    shortInstrumentName = "Left"
  } {
    c''1 \break c''1
  }

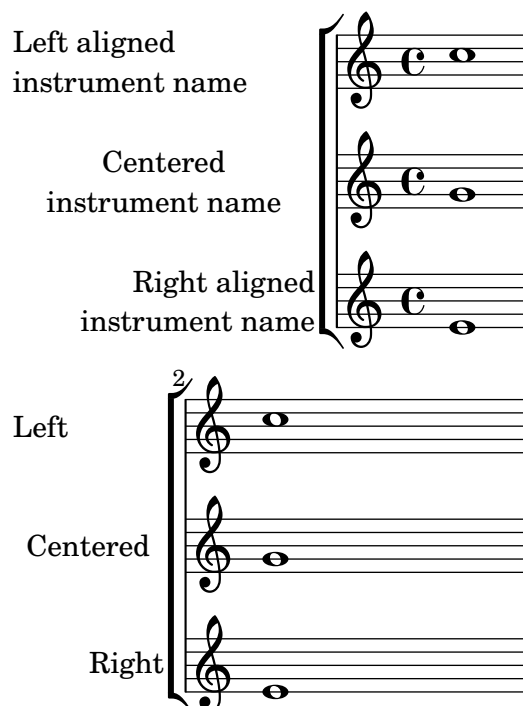
  \new Staff \with {
    \override InstrumentName.self-alignment-X = #CENTER
    instrumentName = \markup \center-column { Centered
                                             "instrument name" }

    shortInstrumentName = "Centered"
  } {
    g'1 g'1
  }

  \new Staff \with {
    \override InstrumentName.self-alignment-X = #RIGHT
    instrumentName = \markup \right-column { "Right aligned"
                                             "instrument name" }

    shortInstrumentName = "Right"
  } {
    e'1 e'1
  }
>>

\layout {
  indent = 4\cm
  short-indent = 2\cm
  line-width = 6.5\cm
}
```



## Arranging separate lyrics on a single line

Sometimes you may want to put lyrics for different performers on a single line: where there is rapidly alternating text, for example. This snippet shows how it can be done with adjusting the `nonstaff-nonstaff-spacing` property of the `VerticalAxisGroup` grob.

```
\layout {
  \context {
    \Lyrics
    \override VerticalAxisGroup
      .nonstaff-nonstaff-spacing
      .minimum-distance = ##f
  }
}

aliceSings = \markup { \smallCaps "Alice" }
eveSings = \markup { \smallCaps "Eve" }

<<
\new Staff <<
  \new Voice = "alice" {
    f'4^\aliceSings g' r2 |
    s1 |
    f'4^\aliceSings g' r2 |
    s1 | \break
    % ...

    \voiceOne
    s2 a'8^\aliceSings a' b'4 |
    \oneVoice
    g'1
  }
}
```

```

\new Voice = "eve" {
  s1 |
  a'2^\eveSings g' |
  s1 |
  a'2^\eveSings g'
  % ...

  \voiceTwo
  f'4^\eveSings a'8 g' f'4 e' |
  \oneVoice
  s1
}
>>

\new Lyrics \lyricsto "alice" {
  may -- be
  sec -- ond
  % ...
  Shut up, you fool!
}

\new Lyrics \lyricsto "eve" {
  that the
  words are
  % ...
  ...and then I was like--
}
>>

```

The musical score is written on two staves. The first staff has a treble clef and a common time signature (C). It contains four measures of music. The first measure is labeled 'ALICE' and contains the lyrics 'may - be'. The second measure is labeled 'EVE' and contains the lyrics 'that the'. The third measure is labeled 'ALICE' and contains the lyrics 'sec - ond'. The fourth measure is labeled 'EVE' and contains the lyrics 'words are'. The second staff starts with a measure rest (5) and then continues with four measures. The first measure is labeled 'EVE' and contains the lyrics '...and then I'. The second measure is labeled 'ALICE' and contains the lyrics 'Shut up, you like--'. The third measure is labeled 'EVE' and contains the lyrics 'fool!'. The fourth measure is labeled 'ALICE' and contains the lyrics 'was like--'.

## Parts de llibre

Es pot usar `\bookpart` per dividir un llibre en diverses parts. L'última pàgina de cada part pot quedar afectada pel valor de `ragged-last-bottom`. Els elements de marcatge d'encapçalament i peu de pàgina pot detectar que estiguin en la ultima pàgina d'una part, i presentar diferències amb l'última pàgina del llibre.

```
#(set-default-paper-size "a6")
```

```

\book {
  %% book paper, which is inherited by all children bookparts
  \paper {
    ragged-last-bottom = ##t
  }
}

```

```

%% Page footer: add a different part-tagline at part last page
oddFooterMarkup = \markup {
  \column {
    \fill-line {
      %% Copyright header field only on book first page.
      \if \on-first-page \fromproperty #'header:copyright
    }
    \fill-line {
      %% Part tagline header field only on each part last page.
      \if \on-last-page-of-part \fromproperty #'header:parttagline
    }
    \fill-line {
      %% Tagline header field only on book last page.
      \if \on-last-page \fromproperty #'header:tagline
    }
  }
}

%% book header, which is inherited by the first bookpart
\header {
  title = "Book title"
  copyright = "Copyright line on book first page"
  parttagline = "Part tagline"
  tagline = "Book tagline"
}

\bookpart {
  %% a different page breaking function may be used on each part
  \paper { page-breaking = #ly:minimal-breaking }
  \header { subtitle = "First part" }
  \markup { The first book part }
  \markup { a page break }
  \pageBreak
  \markup { first part last page }
  \markup \wordwrap {
    with ragged-last-bottom (see the space below this text) }
}

\bookpart {
  \header { subtitle = "Second part" }
  { c'4 }
}

```

# **Book title**

## **First part**

The first book part

a page break

Copyright line on book first page

2

first part last page  
with ragged-last-bottom (see the space below this  
text)

Part tagline



3

## Book title

### Second part



Part tagline  
Book tagline

## Modificar la mida de la pauta

Tot i que la manera més senzilla de redimensionar els pentagrames és usar `#{set-global-staff-size xx}`, la mida d'una pauta individual es pot canviar escalant les propietats de `'staff-space` i de `fontSize`.

```
<<
\new Staff \relative c'' {
  \dynamicDown c8\ff c c c c c c c c
}
\new Staff \with {
  fontSize = #-3
  \override StaffSymbol.staff-space = #(magstep -3)
} \relative c {
  \clef bass c8 c c c c\ff c c c
}
>>
```



This code shows how to clip (extract) snippets from a full score.

If system starts and ends are included, they include extents of the System grob, e.g., instrument names.

Grace notes at the end point of the region are not included.

Regions can span multiple systems. In this case, multiple EPS files are generated.

```

#(set-default-paper-size "a6" 'landscape)
\layout {
  indent = 2.4\cm
}

#(ly:set-option 'clip-systems)
#(ly:set-option 'separate-page-formats "ps")
#(define output-suffix "1")

origScore = \new Staff \with { instrumentName = "Instrument" }
\relative c' {
  c1
  d1
  \grace c16 e1
  \key d \major
  f1 \break
  \clef bass
  g,1
  fis1
}

\book {
  \score {
    \origScore
    \layout {
      % Each clip-region is a (START . END) pair
      % where both are rhythmic locations.  Syntax:
      %
      %   (make-rhythmic-locations BAR-NUMBER NUM DEN)
      %
      % means NUM/DEN whole-notes into bar numbered BAR-NUMBER

      clip-regions = #(list (cons (make-rhythmic-location 2 0 1)
                                (make-rhythmic-location 4 0 1))
                           (cons (make-rhythmic-location 0 0 1)
                                (make-rhythmic-location 2 0 1)))
    }
  }
}

```

```

        (make-rhythmic-location 4 0 1))
      (cons (make-rhythmic-location 0 0 1)
            (make-rhythmic-location 6 0 1)))
    }
  }
}

#(ly:set-option 'clip-systems #f)
#(ly:set-option 'separate-page-formats #f)
#(define output-suffix #f)

\book {
  \score { \origScore }
  \markup { \bold \fontsize #6 clips }
  \score {
    \lyrics {
      "from-2.0.1-to-4.0.1-clip.eps"
      \markup \epsfile #X #30.0
      #(format #f "~a-1-from-2.0.1-to-4.0.1-clip.eps"
        (ly:parser-output-name))
    }
  }
}

```



LilyPond v2.25.33

## Crear pentagrames en blanc

Per crear pentagrames en blanc, genereu compassos buits i després elimineu el gravador de números de compàs `Bar_number_engraver` del context `Score`, i els gravadors de la indicació de compàs `Time_signature_engraver`, de la clau `Clef_engraver` i dels compassos `Bar_engraver` del context de `Staff`.

```

#(set-global-staff-size 10) % for the documentation
% #(set-global-staff-size 20) % for letter and A4

```

```

\book {
  \score {
    { \repeat unfold 12 { s1 \break } }

    \layout {
      indent = 0
      \context {
        \Staff
        \remove "Time_signature_engraver"
        \remove "Clef_engraver"
        \remove "Bar_engraver"
      }
      \context {
        \Score
        \remove "Bar_number_engraver"
      }
    }
  }

  % for the documentation
  \paper {
    #(set-paper-size "a6")
    ragged-last-bottom = ##f
    line-width = 90\mm
    left-margin = 7.5\mm
    bottom-margin = 5\mm
    top-margin = 5\mm
    tagline = ##f
  }

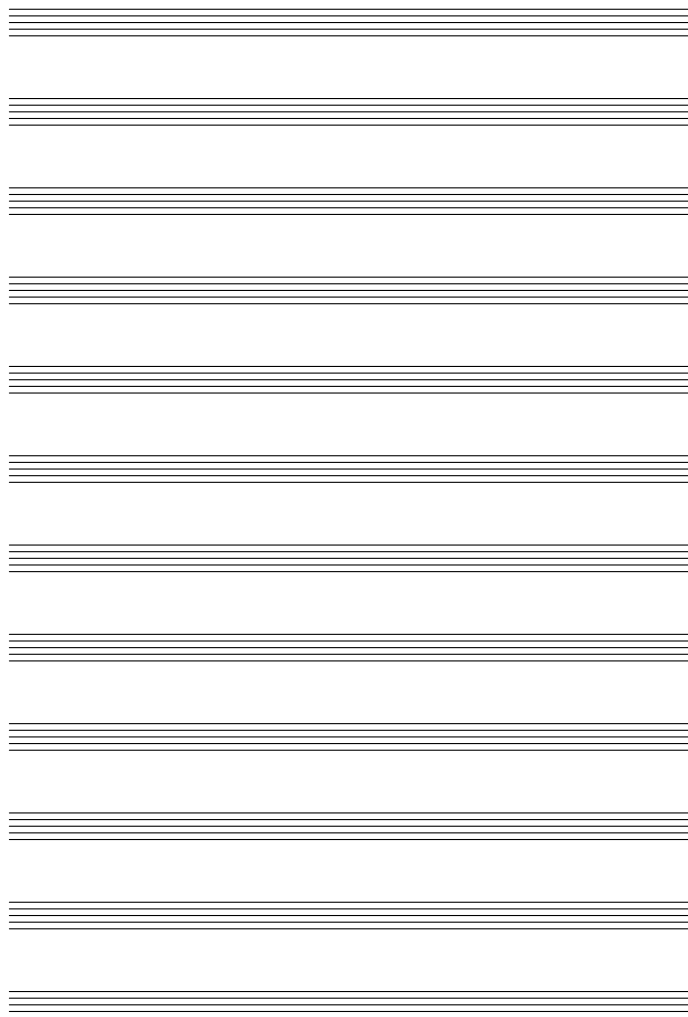
  % uncomment these lines for "letter" size
  %{
  \paper {
    #(set-paper-size "letter")
    ragged-last-bottom = ##f
    line-width = 7.5\in
    left-margin = 0.5\in
    bottom-margin = 0.25\in
    top-margin = 0.25\in
    tagline = ##f
  }
  %}

  % uncomment these lines for "A4" size
  %{
  \paper {
    #(set-paper-size "a4")
    ragged-last-bottom = ##f
    line-width = 180\mm
    left-margin = 15\mm
    bottom-margin = 10\mm
  }
  %}

```

```

    top-margin = 10\mm
    tagline = ##f
  }
  %}
}
```



## Demonstrating all \header fields

A demonstration of all header fields that LilyPond defines by default. Thanks to setting `print-all-headers` to `##t`, much more fields as usual are displayed, indicating the hierarchy of `\header` blocks.

```

\paper {
  #(\set-paper-size "a6" 'landscape)
  print-all-headers = ##t
}

\book {
  \header {
    title = "title"
    subtitle = "subtitle"
    composer = "composer"
    arranger = "arranger"
```

```

    instrument = "instrument"
    meter = "meter"
    opus = "opus"
    piece = "piece"
    poet = "poet"
    copyright = "copyright"
    tagline = "tagline"
}

\bookpart {
  \score {
    \relative c'' { c1 | c | c | c }

    \header {
      title = "localtitle"
      subtitle = "localsubtitle"
      composer = "localcomposer"
      arranger = "localarranger"
      instrument = "localinstrument"
      meter = "localmeter"
      opus = "localopus"
      piece = "localpiece"
      poet = "localpoet"
      copyright = "localcopyright"
      tagline = "localtagline"
    }
  }
}
}
```

	<b>title</b>	
	<b>subtitle</b>	
poet	<b>instrument</b>	composer
meter		arranger
	<b>localtitle</b>	
	<b>localsubtitle</b>	
localpoet	<b>localinstrument</b>	localcomposer
localmeter		localarranger
localpiece		localopus



copyright  
tagline

## Mostrar un sistema GrandStaff complet si segueix amb vida un sol dels seus pentagrames

A vegades, a les partitures orquestrals es deixen en silenci instruments individuals o grups d'ells durant un període de temps, i els seus pentagrames corresponents es poden suprimir durant aquest temps (amb `\removeEmptyStaves`).

Quan tornen a sonar, sovint es prefereix mostrar tots els instruments del grup. Això es pot fer afegint el gravador `Keep_alive_together_engraver` en el context agrupador (per exemple: un `GrandStaff` o un `StaffGroup`)

En aquest exemple, els violins estan en silenci durant els sistemes segon i tercer. Sols el violí primer sona a l'últim compàs, però es mostra també el pentagrama del violí segon.

```
\score {
  <<
    \new Staff = "Staff_flute" \with {
      instrumentName = "Flute"
      shortInstrumentName = "Fl"
    } \relative c' {
      \repeat unfold 3 { c'4 c c c | c c c c | c c c c | \break }
    }

    \new StaffGroup = "StaffGroup_Strings" <<
      \new GrandStaff = "GrandStaff_violins" <<
        \new Staff = "StaffViolinI" \with {
          instrumentName = "Violin I"
          shortInstrumentName = "Vi I"
        } \relative c'' {
          a1 | R1*7 | \repeat unfold 12 a16 a4 |
        }
        \new Staff = "StaffViolinII" \with {
          instrumentName = "Violin II"
          shortInstrumentName = "Vi II"
        } \relative c' {
          e1 | R1*8 |
        }
      >>

      \new Staff = "Staff_cello" \with {
        instrumentName = "Cello"
        shortInstrumentName = "Ce"
      } \relative c {
        \clef bass \repeat unfold 9 { c1 } |
      }
    >>
  >>
}

\layout {
  indent = 3.0\cm
  short-indent = 1.5\cm

  \context {
    \GrandStaff
    \consists Keep_alive_together_engraver
```

```

}
\context {
  \Staff
  \RemoveEmptyStaves
}
}

```

The image displays three systems of musical staves. The first system includes parts for Flute, Violin I, Violin II, and Cello. The second system shows Flute and Cello, with a measure number '4' at the beginning. The third system includes Flute, Violin I, Violin II, and Cello, with a measure number '7' at the beginning. In the third system, the Violin I and II staves have rests in the first two measures and a sixteenth-note run in the third measure.

## Fixació d'un separador entre els sistemes

Es poden inserir separadors de sistema entre els sistemes d'una pàgina. Es pot usar qualsevol element de marcatge, però hi ha `\slashSeparator` com una elecció predeterminada adequada.

```
#(set-default-paper-size "a5")
```

```

\paper {
  system-separator-markup = \slashSeparator
  tagline = ##f
}

```



```

notes = \relative c' {
  c1 | c \break
  c1 | c \break
  c1 | c
}

\book {
  \score {
    \new GrandStaff <<
      \new Staff \notes
      \new Staff \notes
    >>
  }
}

```

## Índex general (taul de continguts)

Es pot incloure un índex general (taula de continguts) mitjançant ús de `\markuplines` `\table-of-contents`. Els elements de la taula de continguts s'afageixen amb l'ordre `\tocItem`.

```

#(set-default-paper-size "a7" 'landscape)
#(set-global-staff-size 11)

```

```

\paper {
  print-all-headers = ##t
}

```

```

\book {
  \markuplist \table-of-contents
}

```

```
\pageBreak

\tocItem \markup { The first score }
\score {
  {
    c'1 \pageBreak
    \mark \default \tocItem \markup { Mark A }
    d'1
  }
  \header { title = "First score" }
}
\pageBreak

\tocItem \markup { The second score }
\score {
  { e'1 }
  \header { title = "Second score" }
}
}
```

	Table of Contents	
The first score		2
Mark A		3
The second score		4
2		

First score



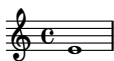
3

2



4

Second score



## Vertically aligned StaffGroups without connecting SystemStartBar

This snippet shows how to achieve vertically aligned StaffGroups with a SystemStartBar for each StaffGroup, but without connecting them.

Note that this only works properly for music that can be printed as a single system.

```

#(set-global-staff-size 15)

\paper {
  ragged-right = ##f
  print-all-headers = ##t
  tagline = ##f
}

\layout {
  indent = 0

  \context {
    \StaffGroup
    \consists Text_mark_engraver
    \consists Staff_collecting_engraver
    systemStartDelimiterHierarchy =
      #'(SystemStartBrace (SystemStartBracket a b))
  }

  \context {
    \Score
    \remove Text_mark_engraver
    \remove Staff_collecting_engraver
    \override SystemStartBrace.style = #'bar-line
    \omit SystemStartBar
    \override SystemStartBrace.padding = #-0.1
    \override SystemStartBrace.thickness = #1.6
    \override StaffGrouper.staffgroup-staff-spacing.basic-distance = #15
  }
}

%%% EXAMPLE

txt =
\lyricmode {
  Wer4 nur den lie -- ben Gott läßt wal2 -- ten4
  und4 hof -- fet auf ihn al -- le Zeit2.
}

% First StaffGroup "exercise"

eI = \relative c' {
  \textMark \markup {
    \bold Teacher:
    This is a simple setting of the choral. Please improve it. }
  \key a \minor
  \time 4/4

```

```

\voiceOne

\partial 4 e4
a b c b
a b gis2
e4\fermata g! g f
e a a gis
a2.\fermata
\bar " : | ."
}

eII = \relative c' {
  \key a \minor
  \time 4/4
  \voiceTwo
  \partial 4 c4
  e e e gis
  a f e2
  b4 b d d
  c c d d
  c2.
  \bar " : | ."
}

eIII = \relative c' {
  \key a \minor
  \time 4/4
  \clef bass
  \voiceOne

  \partial 4 a4
  c b a b
  c d b2
  gis4 g g b
  c a f e
  e2.
}

eIV = \relative c' {
  \key a \minor
  \time 4/4
  \clef bass
  \voiceTwo

  \partial 4 a,4
  a' gis a e
  a, d e2
  e,4\fermata e' b g
  c f d e
  a,2.\fermata
  \bar " : | ."
}

```

```

exercise = \new StaffGroup = "exercise" <<
  \new Staff <<
    \new Voice \eI
    \new Voice \eII
  >>

  \new Lyrics \txt

  \new Staff <<
    \new Voice \eIII
    \new Voice \eIV
  >>
>>

% Second StaffGroup "simple Bach"

sbI = \relative c' {
  \textMark \markup { \bold" Pupil:" Here's my version! }
  \key a \minor
  \time 4/4
  \voiceOne

  \partial 4 e4
  a b c b
  a b gis2
  e4\fermata g! g f
  e a a gis
  a2.\fermata
  \bar ":|."
}

sbII = \relative c' {
  \key a \minor
  \time 4/4
  \voiceTwo
  \partial 4 c8 d
  e4 e e8 f g4
  f f e2
  b4 b8 c d4 d
  e8 d c4 b8 c d4
  c2.
  \bar ":|."
}

sbIII = \relative c' {
  \key a \minor
  \time 4/4
  \clef bass
  \voiceOne

```

```

\partial 4 a8 b
c4 b a b8 c
d4 d8 c b2
gis4 g g8 a b4
b a8 g f4 e
e2.
}

sbIV = \relative c' {
  \key a \minor
  \time 4/4
  \clef bass
  \voiceTwo

  \partial 4 a,4
  a' gis a e
  f8 e d4 e2
  e,4\fermata e' b a8 g
  c4 f8 e d4 e
  a,2.\fermata
  \bar ":|."
}

simpleBach = \new StaffGroup = "simple Bach" <<
  \new Staff <<
    \new Voice \sbI
    \new Voice \sbII
  >>

  \new Lyrics \txt

  \new Staff <<
    \new Voice \sbIII
    \new Voice \sbIV
  >>
>>

% Third StaffGroup "chromatic Bach"

cbI = \relative c' {
  \textMark \markup {
    \bold "Teacher:"
    \column {
      "Well, you simply copied and transposed a version of J.S.Bach."
      "Do you know this one?"
    }
  }
}

\key a \minor
\time 4/4
\voiceOne

```

```

\partial 4 e4
a b c b
a b gis4. fis8
e4\fermata g! g f
e a a8 b gis4
a2.\fermata
\bar " : | ."
}

cbII = \relative c' {
  \key a \minor
  \time 4/4
  \voiceTwo

  \partial 4 c8 d
  e4 e e8 fis gis4
  a8 g! f!4 e2
  b4 e e d
  d8[ cis] d dis e fis e4
  e2.
  \bar " : | ."
}

cbIII = \relative c' {
  \key a \minor
  \time 4/4
  \clef bass
  \voiceOne

  \partial 4 a8 b
  c[ b] a gis8 a4 d,
  e8[ e'] d c b4. a8
  gis4 b c d8 c
  b[ a] a b c b b c16 d
  c2.
}

cbIV = \relative c' {
  \key a \minor
  \time 4/4
  \clef bass
  \voiceTwo

  \partial 4 a4
  c, e a, b
  c d e2
  e4\fermata e a b8 c
  gis[ g] fis f e dis e4
  a,2.\fermata
  \bar " : | ."
}

```

```

chromaticBach = \new StaffGroup = "chromatic Bach" <<
  \new Staff <<
    \new Voice \cbI
    \new Voice \cbII
  >>

  \new Lyrics \txt

  \new Staff <<
    \new Voice \cbIII
    \new Voice \cbIV
  >>
>>

% Score

\score {
  <<
    \exercise
    \simpleBach
    \chromaticBach
  >>

  \header {
    title = \markup \column {
      \combine \null \vspace #1
      "Exercise: Improve the given choral"
      " "
    }
  }

  \layout {
    \context {
      \Lyrics
      \override LyricText.X-offset = #-1
    }
  }
}

```

### Exercise: Improve the given choral



**Teacher:** This is a simple setting of the choral. Please improve it.

Wer nur den lie - ben Gott läßt wal - ten und hof - fet auf ihn al - le Zeit

This musical score is a simple setting of the hymn 'Wer nur den lieben Gott läßt walten' in C major, 4/4 time. The melody is in the treble clef, and the bass line is in the bass clef. The lyrics are written below the notes.

**Pupil:** Here's my version!

Wer nur den lie - ben Gott läßt wal - ten und hof - fet auf ihn al - le Zeit

This musical score is a pupil's version of the hymn. It is a direct transcription of the teacher's score, with no changes to the melody or bass line.

**Teacher:** Well, you simply copied and transposed a version of J.S.Bach.  
Do you know this one?

Wer nur den lie - ben Gott läßt wal - ten und hof - fet auf ihn al - le Zeit

This musical score is a more complex version of the hymn, featuring a more elaborate melody and bass line. It is a transcription of a more advanced setting of the hymn.

## 21 Titles

See also Secció “Titles and headers” in *Referencia de la Notación*.

### Afegir la data actual a una partitura

Amb quelcom de codi de l'Scheme, es pot afegir fàcilment la data actual a una partitura.

```
\paper { tagline = ##f }

% first, define a variable to hold the formatted date:
date = #(strftime "%d-%m-%Y" (localtime (current-time)))

% use it in the title block:
\header {
  title = "Including the date!"
  subtitle = \date
}

\score {
  \relative c' {
    c4 c c c
  }
}

% and use it in a \markup block:
\markup {
  \date
}
```

**Including the date!**  
**07-02-2026**



07-02-2026

### Alinear i centrar els noms dels instruments

L'alineació horitzontal dels noms d'instruments es pot ajustar modificant la propietat `Staff.InstrumentName #'self-alignment-X`. Les variables de `\layout`, `indent` i `short-indent` defineixen l'espai en el qual s'alineen els noms d'instrument abans del primer sistema i dels següents, respectivament.

```
\paper {
  left-margin = 3\cm
}

\new StaffGroup <<
  \new Staff \with {
    \override InstrumentName.self-alignment-X = #LEFT
    instrumentName = \markup \left-column { "Left aligned"
                                              "instrument name" }

    shortInstrumentName = "Left"
```

```

} {
  c''1 \break c''1
}

\new Staff \with {
  \override InstrumentName.self-alignment-X = #CENTER
  instrumentName = \markup \center-column { Centered
                                         "instrument name" }

  shortInstrumentName = "Centered"
} {
  g'1 g'1
}

\new Staff \with {
  \override InstrumentName.self-alignment-X = #RIGHT
  instrumentName = \markup \right-column { "Right aligned"
                                         "instrument name" }

  shortInstrumentName = "Right"
} {
  e'1 e'1
}
>>

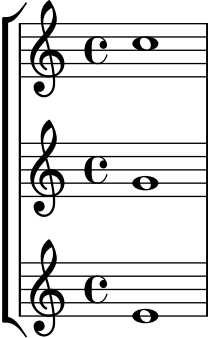
\layout {
  indent = 4\cm
  short-indent = 2\cm
  line-width = 6.5\cm
}

```

Left aligned  
instrument name

Centered  
instrument name

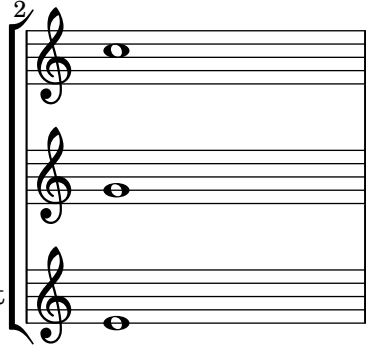
Right aligned  
instrument name



Left

Centered

Right



## Demonstrating all \header fields

A demonstration of all header fields that LilyPond defines by default. Thanks to setting `print-all-headers` to `#t`, much more fields as usual are displayed, indicating the hierarchy of `\header` blocks.

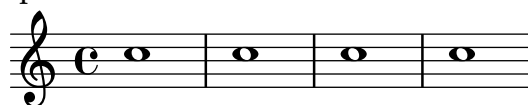
```
\paper {
  #(set-paper-size "a6" 'landscape)
  print-all-headers = ##t
}

\book {
  \header {
    title = "title"
    subtitle = "subtitle"
    composer = "composer"
    arranger = "arranger"
    instrument = "instrument"
    meter = "meter"
    opus = "opus"
    piece = "piece"
    poet = "poet"
    copyright = "copyright"
    tagline = "tagline"
  }

  \bookpart {
    \score {
      \relative c'' { c1 | c | c | c }

      \header {
        title = "localtitle"
        subtitle = "localsubtitle"
        composer = "localcomposer"
        arranger = "localarranger"
        instrument = "localinstrument"
        meter = "localmeter"
        opus = "localopus"
        piece = "localpiece"
        poet = "localpoet"
        copyright = "localcopyright"
        tagline = "localtagline"
      }
    }
  }
}
```

	<b>title</b>	
	<b>subtitle</b>	
poet	<b>instrument</b>	composer
meter		arranger
	<b>localtitle</b>	
	<b>localsubtitle</b>	
localpoet	<b>localinstrument</b>	localcomposer
localmeter		localarranger
localpiece		localopus



copyright  
tagline

## Imprimir el número de versió

Introduint la sortida de `lilypond-version` en la lletra d'una cançó, és possible imprimir el número de versió del LilyPond dins d'una partitura, o en un document generat amb `lilypond-book`. Una altra possibilitat és afegir el número de versió al final de la doc-string, d'aquesta forma:

```
\markup { Processed with LilyPond version #(lilypond-version) }
```

Processed with LilyPond version 2.25.33

## 22 Spacing

See also Secció “Spacing issues” in *Referencia de la Notación*.

### Adjusting vertical spacing of lyrics

This snippet shows how to bring the lyrics line closer to the staff.

```
music = \relative c' { c4 d e f | g4 f e d | c1 }
text = \lyricmode { aa aa aa aa aa aa aa aa aa }

<<
\new Staff \new Voice = melody \music
% Default layout:
\new Lyrics \lyricsto melody \text

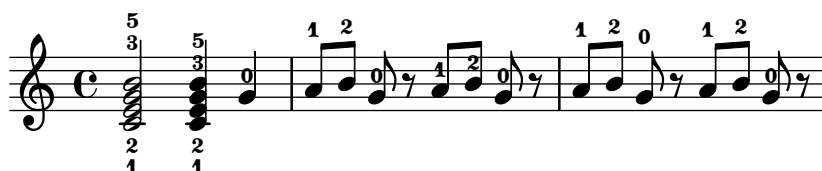
\new Staff \new Voice = melody \music
% Reducing the minimum space below the staff and above the lyrics.
\new Lyrics \with {
  \override VerticalAxisGroup.nonstaff-relatedstaff-spacing =
    #'((basic-distance . 1))
} \lyricsto melody \text
>>
```



### Permetre que les digitacions s'imprimeixen del pentagrama

Les xifres de digitació orientades verticalment es col·loquen de forma predeterminada fora del pentagrama. Malgrat això, aquest comportament es pot desactivar. Nota: s'ha d'usar una construcció d'acord <>, tot i que sigui una sola nota.

```
\relative c' {
  <c-1 e-2 g-3 b-5>2
  \override Fingering.staff-padding = #'()
  <c-1 e-2 g-3 b-5>4 g'-0
  a8[-1 b]-2 g-0 r
  \override Fingering.add-stem-support = ##f
  a[-1 b]-2 g-0 r
  \override Fingering.add-stem-support = ##t
  a[-1 b]-2 g-0 r
  \override Fingering.add-stem-support = #only-if-beamed
  a[-1 b]-2 g-0 r
}
```



## Breaking horizontal alignment of dynamics and textscripts

LilyPond uses `DynamicLineSpanner` grobs to horizontally align successive dynamic objects like hairpins and dynamic text, even if they are positioned on different sides of a staff. This connection cannot be broken, contrary to the vertical alignment (see snippet “Breaking vertical alignment of dynamics and textscripts”).

There are two solutions to circumvent the problem.

- Modify the `shorten-pair` property of the `Hairpin` grob to compensate the offset by which the hairpin was moved.
- Put the two dynamic objects into different voices.

Both solutions are demonstrated in this snippet.

```
{
  <>^"default"
  f' _\pp ^\> f' f' f'\!
}

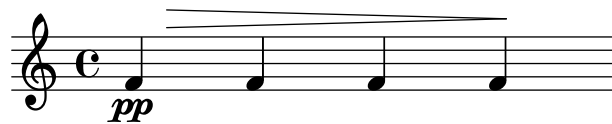
{
  <>^\markup { setting \typewriter shorten-pair }
  f' _\pp \tweak shorten-pair #'(-3 . 0) ^\> f' f' f'\!
}

{
  <>^\markup { using another \typewriter Voice context }
  << { f' ^\> f' f' f'\! }
  \new Voice { s4 _\pp } >>
}

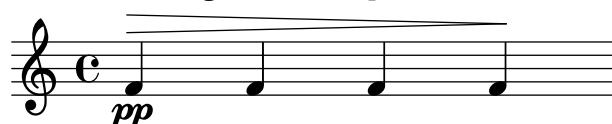
\layout {
  line-width = 8\cm
  ragged-right = ##f

  \context {
    \Voice
    \override TextScript.staff-padding = #3.5
  }
}
```


default



setting shorten-pair



using another Voice context



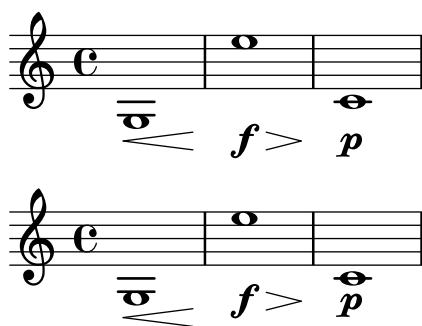
## Breaking vertical alignment of dynamics and textscripts

By default, LilyPond uses `DynamicLineSpanner` grobs to vertically align successive dynamic objects like hairpins and dynamic text. However, this is not always wanted. By inserting `\breakDynamicSpan`, which ends the alignment spanner prematurely, this vertical alignment can be avoided.

See also snippet “Breaking horizontal alignment of dynamics and textscripts”.

```
{ g1\< |
  e''\f\> |
  c'\p }

{ g1\< |
  e''\breakDynamicSpan\f\> |
  c'\p }
```



## Harmonizing bar line thickness for staves with different sizes

When using `\magnifyStaff` only for some staves in a `StaffGroup`, `BarLine` grobs do not align any more due to its changed properties `thick-thickness`, `hair-thickness`, and `kern`.

To fix this, multiple workarounds are available, as demonstrated below.

```
\markuplist {
  % First row.
  \fill-line {
    \score {
      \new StaffGroup <<
        \new Staff \with { \magnifyStaff #1/2 } {
          \textMark \markup \tiny "default"
          b1 b \bar "|."
        }
        \new Staff { b b }
      >>
    }
    \score {
      \new StaffGroup <<
        \new Staff \with { \magnifyStaff #1/2 } {
          \textMark \markup \tiny \column { "reverting only the"
                                           "final bar line" }
          b1 b
          \revert Staff.BarLine.thick-thickness
          \revert Staff.BarLine.hair-thickness
          \revert Staff.BarLine.kern
          \bar "|."
        }
      >>
    }
  }
}
```



```

    }
    \new Staff { b b }
  >>
}
\score {
  \new StaffGroup <<
    \new Staff \with { \magnifyStaff #1/2
      #(revert-props 'magnifyStaff 0
        '((BarLine thick-thickness)
          (BarLine hair-thickness)
          (BarLine kern))) } {
      \textMark \markup \tiny \column { "cancelling"
        \typewriter "\magnifyStaff"
        "only for bar lines" }

      b1 b \bar "|."
    }
    \new Staff { b b }
  >>
}
}

\vspace #2

% Second row.
\fill-line {
  \score {
    \new StaffGroup <<
      \new Staff \with { \magnifyStaff #1/2 } {
        \textMark \markup \tiny \column { "mimicking"
          \typewriter "\magnifyStaff"
          "on the other staves" }

        b1 b \bar "|." }
      \new Staff \with { #(scale-props 'magnifyStaff 1/2 #t
        '((BarLine thick-thickness)
          (BarLine hair-thickness)
          (BarLine kern))) } {

        b b }
    >>
  }
  \score {
    \new StaffGroup <<
      \new Staff \with { \magnifyStaff #1/2
        #(scale-props 'magnifyStaff 3/2 #t
          '((BarLine thick-thickness)
            (BarLine hair-thickness)
            (BarLine kern))) } {
        \textMark \markup \tiny \column { "applying an"
          "intermediate"
          "value to all staves" }

        b1 b \bar "|." }
      \new Staff \with { #(scale-props 'magnifyStaff 3/4 #t
        '((BarLine thick-thickness)

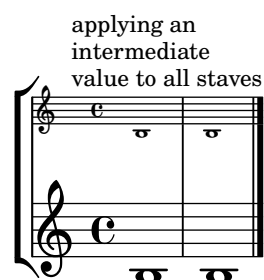
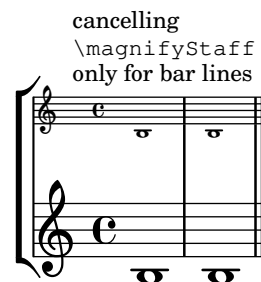
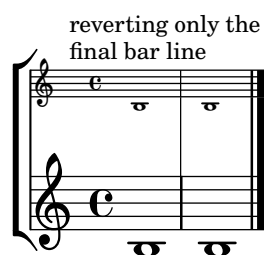
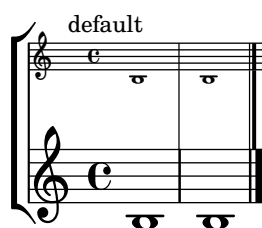
```

```

        (BarLine hair-thickness)
        (BarLine kern))) } {

    b b }
    >>
  }
  ""
}
}

```



## Etiqueta de pàgina

Es poden posar etiquetes de pàgina dins de la música on al nivell superior, i ser referenciades des d'altres elements de marcatge.

```

#(set-default-paper-size "a7" 'landscape)
#(set-global-staff-size 11)

```

```

\label license
\markup \fill-line {
  \center-column {
    "This snippet is available"
    "under the Creative Commons"
    "Public Domain Dedication license." } }

```

```

{
  \repeat volta 2 {
    \label startRepeat
    \repeat unfold 22 { c'2 2 }
    \pageBreak
    \repeat unfold 16 { c'2 2 }
  }
  \textEndMark \markup {
    \with-link #'startRepeat \line {

```

```

    To page \page-ref #'startRepeat "0" "?"
  }
}

```

```

\markup \fill-line {
  \line {
    See page \page-ref #'license "0" "?" for
    licensing information. } }

```

This snippet is available  
under the Creative Commons  
Public Domain Dedication license.



See page ? for licensing information.

## Espaiat de les notes estrictament proporcional

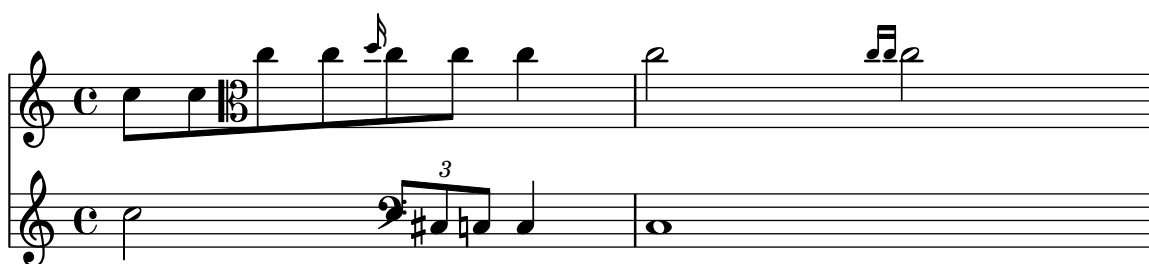
Si s'ha establert `strict-note-spacing`, l'espaiat de les notes no es veu influït pels compassos o claus que pugui haver-hi dins d'un sistema. En comptes d'això, es col·loquen just abans de la nota que té lloc en el mateix moment temporal. Això pot produir col·lisions.

```

\relative c' ' <<
  \override Score.SpacingSpanner.strict-note-spacing = ##t
  \set Score.proportionalNotationDuration = #1/16

  \new Staff {
    c8[ c \clef alto c c \grace { d16 } c8 c] c4
    c2 \grace { c16[ c16] } c2
  }
  \new Staff {
    c2 \tuplet 3/2 { c8 \clef bass cis,, c } c4
    c1
  }
>>

```



## Indicacions dinàmiques i textuais alineades verticalment

Tots els objectes `DynamicLineSpanner` (reguladors i indicacions dinàmiques de text) se situen amb la seva línia de referència a una distància d'almenys `'staff-padding` del pentagrama, a no ser que d'altres elements de notació els forci a col·locar-se a més distància. Si s'ajusta `'staff-padding` a un valor suficientment gran, les indicacions dinàmiques quedaran alineades.

S'usa una idea semblant junt a `\textLengthOn` per alinear les inscripcions de text al llarg de la seva línia de base.

```
music = \relative c' {
  a'2\p b\f
  e4\p f\f> g, b\p
  c2^\markup { \huge gorgeous } c^\markup { \huge fantastic }
}

{
  \music
  \break
  \override DynamicLineSpanner.staff-padding = 3
  \textLengthOn
  \override TextScript.staff-padding = 1
  \music
}
```



## Alineació vertical de la lletra i els compassos d'ossia

Aquest fragment de codi mostra l'ús de les propietats de context `alignBelowContext` i `alignAboveContext` per a controlar la posició de la lletra i els compassos d'ossia.

```
\relative c' <<
  \new Staff = "1" { c4 c c c }
  \new Staff = "2" { d4 d d d }
  \new Staff = "3" { e4 e e e }

  { \skip 2
    <<
      \lyrics {
        \set alignBelowContext = "1"
        lyrics4 below
      }
      \new Staff \with {
        alignAboveContext = "3"
        fontSize = -2
        \override StaffSymbol.staff-space = #(magstep -2)
      }
```

```

\remove "Time_signature_engraver"
\override VerticalAxisGroup.staff-staff-spacing =
  #'((minimum-distance . 0)
    (basic-distance . 0)
    (padding . 1))
} {
  \tuplet 6/4 {
    \override TextScript.padding = 2
    c8[~"ossia above" d e d e f]
  }
}
>>
}
>>

```

The image displays a musical score with three staves. The top staff contains five quarter notes. The middle staff contains five quarter notes, with the text "lyrics below" positioned centrally beneath the notes. The bottom staff contains five quarter notes. A sixteenth-note triplet is positioned above the bottom staff, beginning in the third measure, with the text "ossia above" placed above it.

## 23 MIDI

See also Secció “Creating MIDI output” in *Referencia de la Notación*.

### Modificar la sortida MIDI perquè tingui un canal per a cada veu

En produir una sortida MIDI, el comportament predeterminat és que cada pentagrama representa un canal MIDI, amb totes les veus d’aquest pentagrama barrejades. Això redueix al mínim el risc que s’esgoti el nombre de canals MIDI disponibles, atès que hi ha un màxim de 16 canals per cada port MIDI, i la majoria dels dispositius sols tenen un port.

No obstant, quan es trasllada l’interpretador `Staff_performer` al context `Voice`, cada veu d’un pentagrama pot tenir el seu propi canal MIDI, com es mostra a l’exemple següent: malgrat d’estar sobre el mateix pentagrama, es creen dos canals MIDI, cadascú amb un `midiInstrument` diferent.

```
\score {
  \new Staff <<
    \new Voice \relative c''' {
      \set midiInstrument = "flute"
      \voiceOne
      \key g \major
      \time 2/2
      r2 g-"Flute" ~
      g fis ~
      fis4 g8 fis e2 ~
      e4 d8 cis d2
    }
    \new Voice \relative c'' {
      \set midiInstrument = "clarinet"
      \voiceTwo
      b1-"Clarinet"
      a2. b8 a
      g2. fis8 e
      fis2 r
    }
  >>
  \layout { }
  \midi {
    \context {
      \Staff
      \remove "Staff_performer"
    }
    \context {
      \Voice
      \consists "Staff_performer"
    }
    \tempo 2 = 72
  }
}
```



## Canviar el tempo sense indicació metronòmica

Per canviar el tempo a la sortida MIDI sense imprimir res, fem invisible la indicació metronòmica:

```
\score {
  \new Staff \relative c' {
    \tempo 4 = 160
    c4 e g b
    c4 b d c
    \set Score.tempoHideNote = ##t
    \tempo 4 = 96
    d,4 fis a cis
    d4 cis e d
  }
  \layout { }
  \midi { }
}
```



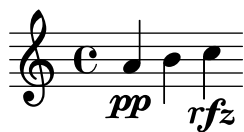
## Creació de marques dinàmiques a la sortida MIDI

L'exemple següent mostra com crear un marcatge dinàmic, que no està inclòs a llista predeterminada, i assignar-lo a un valor específic de manera que es pugui usar per afectar la sortida MIDI.

A la marca dinàmica `\rfz` se li assigna un valor de 0.9.

```
#(define (myDynamics dynamic)
  (if (equal? dynamic "rfz")
    0.9
    (default-dynamic-absolute-volume dynamic)))

\score {
  \new Staff {
    \set Staff.midiInstrument = "cello"
    \set Score.dynamicAbsoluteVolumeFunction = #myDynamics
    \new Voice {
      \relative {
        a'4\pp b c-\rfz
      }
    }
  }
  \layout {}
  \midi {}
}
```



## Demo of MIDI instruments

Problem: How to know which `midiInstrument` values would be best for your composition?

Solution: A LilyPond demo file. You have to compile this snippet by yourself and listen to the created MIDI output file.

```
melody = \relative c' {
  \tempo 4 = 150
  c4.\mf g c16 b' c d
  e16 d e f g4 g'4 r
  R1
}
```

```
\score {
  \new Voice \melody
  \layout { }
}
```

```
\score {
  \new Voice {
    r\mf
    % 1-8 keyboard
    \set Staff.midiInstrument = "acoustic grand" \melody
    \set Staff.midiInstrument = "bright acoustic" \melody
    \set Staff.midiInstrument = "electric grand" \melody
    \set Staff.midiInstrument = "honky-tonk" \melody
    \set Staff.midiInstrument = "electric piano 1" \melody
    \set Staff.midiInstrument = "electric piano 2" \melody
    \set Staff.midiInstrument = "harpsichord" \melody
    \set Staff.midiInstrument = "clav" \melody

    % 9-16 chrom percussion
    \set Staff.midiInstrument = "celesta" \melody
    \set Staff.midiInstrument = "glockenspiel" \melody
    \set Staff.midiInstrument = "music box" \melody
    \set Staff.midiInstrument = "vibraphone" \melody
    \set Staff.midiInstrument = "marimba" \melody
    \set Staff.midiInstrument = "xylophone" \melody
    \set Staff.midiInstrument = "tubular bells" \melody
    \set Staff.midiInstrument = "dulcimer" \melody

    % 17-24 organ
    \set Staff.midiInstrument = "drawbar organ" \melody
    \set Staff.midiInstrument = "percussive organ" \melody
    \set Staff.midiInstrument = "rock organ" \melody
    \set Staff.midiInstrument = "church organ" \melody
    \set Staff.midiInstrument = "reed organ" \melody
    \set Staff.midiInstrument = "accordion" \melody
  }
}
```



```

\set Staff.midiInstrument = "harmonica" \melody
\set Staff.midiInstrument = "concertina" \melody

% 25-32 guitar
\set Staff.midiInstrument = "acoustic guitar (nylon)" \melody
\set Staff.midiInstrument = "acoustic guitar (steel)" \melody
\set Staff.midiInstrument = "electric guitar (jazz)" \melody
\set Staff.midiInstrument = "electric guitar (clean)" \melody
\set Staff.midiInstrument = "electric guitar (muted)" \melody
\set Staff.midiInstrument = "overdriven guitar" \melody
\set Staff.midiInstrument = "distorted guitar" \melody
\set Staff.midiInstrument = "guitar harmonics" \melody

% 33-40 bass
\set Staff.midiInstrument = "acoustic bass" \melody
\set Staff.midiInstrument = "electric bass (finger)" \melody
\set Staff.midiInstrument = "electric bass (pick)" \melody
\set Staff.midiInstrument = "fretless bass" \melody
\set Staff.midiInstrument = "slap bass 1" \melody
\set Staff.midiInstrument = "slap bass 2" \melody
\set Staff.midiInstrument = "synth bass 1" \melody
\set Staff.midiInstrument = "synth bass 2" \melody

% 41-48 strings
\set Staff.midiInstrument = "violin" \melody
\set Staff.midiInstrument = "viola" \melody
\set Staff.midiInstrument = "cello" \melody
\set Staff.midiInstrument = "contrabass" \melody
\set Staff.midiInstrument = "tremolo strings" \melody
\set Staff.midiInstrument = "pizzicato strings" \melody
\set Staff.midiInstrument = "orchestral harp" \melody
\set Staff.midiInstrument = "timpani" \melody

% 49-56 ensemble
\set Staff.midiInstrument = "string ensemble 1" \melody
\set Staff.midiInstrument = "string ensemble 2" \melody
\set Staff.midiInstrument = "synthstrings 1" \melody
\set Staff.midiInstrument = "synthstrings 2" \melody
\set Staff.midiInstrument = "choir aahs" \melody
\set Staff.midiInstrument = "voice oohs" \melody
\set Staff.midiInstrument = "synth voice" \melody
\set Staff.midiInstrument = "orchestra hit" \melody

% 57-64 brass
\set Staff.midiInstrument = "trumpet" \melody
\set Staff.midiInstrument = "trombone" \melody
\set Staff.midiInstrument = "tuba" \melody
\set Staff.midiInstrument = "muted trumpet" \melody
\set Staff.midiInstrument = "french horn" \melody
\set Staff.midiInstrument = "brass section" \melody
\set Staff.midiInstrument = "synthbrass 1" \melody
\set Staff.midiInstrument = "synthbrass 2" \melody

```

*% 65-72 reed*

```
\set Staff.midiInstrument = "soprano sax" \melody
\set Staff.midiInstrument = "alto sax" \melody
\set Staff.midiInstrument = "tenor sax" \melody
\set Staff.midiInstrument = "baritone sax" \melody
\set Staff.midiInstrument = "oboe" \melody
\set Staff.midiInstrument = "english horn" \melody
\set Staff.midiInstrument = "bassoon" \melody
\set Staff.midiInstrument = "clarinet" \melody
```

*% 73-80 pipe*

```
\set Staff.midiInstrument = "piccolo" \melody
\set Staff.midiInstrument = "flute" \melody
\set Staff.midiInstrument = "recorder" \melody
\set Staff.midiInstrument = "pan flute" \melody
\set Staff.midiInstrument = "blown bottle" \melody
\set Staff.midiInstrument = "shakuhachi" \melody
\set Staff.midiInstrument = "whistle" \melody
\set Staff.midiInstrument = "ocarina" \melody
```

*% 81-88 synth lead*

```
\set Staff.midiInstrument = "lead 1 (square)" \melody
\set Staff.midiInstrument = "lead 2 (sawtooth)" \melody
\set Staff.midiInstrument = "lead 3 (calliope)" \melody
\set Staff.midiInstrument = "lead 4 (chiff)" \melody
\set Staff.midiInstrument = "lead 5 (charang)" \melody
\set Staff.midiInstrument = "lead 6 (voice)" \melody
\set Staff.midiInstrument = "lead 7 (fifths)" \melody
\set Staff.midiInstrument = "lead 8 (bass+lead)" \melody
```

*% 89-96 synth pad*

```
\set Staff.midiInstrument = "pad 1 (new age)" \melody
\set Staff.midiInstrument = "pad 2 (warm)" \melody
\set Staff.midiInstrument = "pad 3 (polysynth)" \melody
\set Staff.midiInstrument = "pad 4 (choir)" \melody
\set Staff.midiInstrument = "pad 5 (bowed)" \melody
\set Staff.midiInstrument = "pad 6 (metallic)" \melody
\set Staff.midiInstrument = "pad 7 (halo)" \melody
\set Staff.midiInstrument = "pad 8 (sweep)" \melody
```

*% 97-104 synth effects*

```
\set Staff.midiInstrument = "fx 1 (rain)" \melody
\set Staff.midiInstrument = "fx 2 (soundtrack)" \melody
\set Staff.midiInstrument = "fx 3 (crystal)" \melody
\set Staff.midiInstrument = "fx 4 (atmosphere)" \melody
\set Staff.midiInstrument = "fx 5 (brightness)" \melody
\set Staff.midiInstrument = "fx 6 (goblins)" \melody
\set Staff.midiInstrument = "fx 7 (echoes)" \melody
\set Staff.midiInstrument = "fx 8 (sci-fi)" \melody
```

*% 105-112 ethnic*

```

\set Staff.midiInstrument = "sitar" \melody
\set Staff.midiInstrument = "banjo" \melody
\set Staff.midiInstrument = "shamisen" \melody
\set Staff.midiInstrument = "koto" \melody
\set Staff.midiInstrument = "kalimba" \melody
\set Staff.midiInstrument = "bagpipe" \melody
\set Staff.midiInstrument = "fiddle" \melody
\set Staff.midiInstrument = "shanai" \melody

% 113-120 percussive
\set Staff.midiInstrument = "tinkle bell" \melody
\set Staff.midiInstrument = "agogo" \melody
\set Staff.midiInstrument = "steel drums" \melody
\set Staff.midiInstrument = "woodblock" \melody
\set Staff.midiInstrument = "taiko drum" \melody
\set Staff.midiInstrument = "melodic tom" \melody
\set Staff.midiInstrument = "synth drum" \melody
\set Staff.midiInstrument = "reverse cymbal" \melody

% 121-128 sound effects
\set Staff.midiInstrument = "guitar fret noise" \melody
\set Staff.midiInstrument = "breath noise" \melody
\set Staff.midiInstrument = "seashore" \melody
\set Staff.midiInstrument = "bird tweet" \melody
\set Staff.midiInstrument = "telephone ring" \melody
\set Staff.midiInstrument = "helicopter" \melody
\set Staff.midiInstrument = "applause" \melody
\set Staff.midiInstrument = "gunshot" \melody
}
\midi { }
}

```



## Replacing default MIDI instrument equalization

The default MIDI instrument equalizer can be replaced by setting the `instrumentEqualizer` property in the Score context to a user-defined Scheme procedure that uses a MIDI instrument name as its argument along with a pair of fractions indicating the minimum and maximum volumes, respectively, to be applied to that specific instrument.

The following example sets the minimum and maximum volumes for flute and clarinet.

```

#(define my-instrument-equalizer-alist '())

#(set! my-instrument-equalizer-alist
  (append
    '(("flute" . (0.7 . 0.9))
      ("clarinet" . (0.3 . 0.6)))
    my-instrument-equalizer-alist))

```

```

#(define (my-instrument-equalizer s)
  (let ((entry (assoc s my-instrument-equalizer-alist)))
    (if entry
      (cdr entry))))

\score {
  <<
    \new Staff {
      \key g \major
      \time 2/2
      \set Score.instrumentEqualizer = #my-instrument-equalizer
      \set Staff.midiInstrument = "flute"
      \new Voice \relative {
        r2 g''\mp g fis~
        4 g8 fis e2~
        4 d8 cis d2
      }
    }
    \new Staff {
      \key g \major
      \set Staff.midiInstrument = "clarinet"
      \new Voice \relative {
        b'1\p a2. b8 a
        g2. fis8 e
        fis2 r
      }
    }
  >>
  \layout { }
  \midi { }
}

```



## 24 Templates

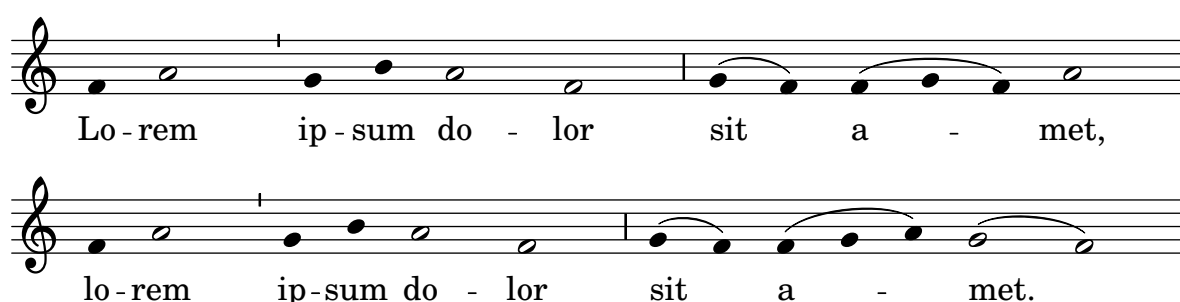
### Ancient notation template – modern transcription of Gregorian music

This example demonstrates how to do modern transcription of Gregorian music. Gregorian music has no measure, no stems; it uses only half and quarter note heads, and special marks, indicating rests of different length.

```
chant = \relative c' {
  \set Score.timing = ##f
  f4 a2 \divisioMinima
  g4 b a2 f2 \divisioMaior
  g4( f) f( g f) a2 \finalis \break
  f4 a2 \divisioMinima
  g4 b a2 f2 \divisioMaior
  g4( f) f( g a) g2( f) \finalis
}

verba = \lyricmode {
  Lo -- rem ip -- sum do -- lor sit a -- met,
  lo -- rem ip -- sum do -- lor sit a -- met.
}

\score {
  \new GregorianTranscriptionStaff <<
    \new GregorianTranscriptionVoice = "melody" \chant
    \new GregorianTranscriptionLyrics = "one" \lyricsto melody \verba
  >>
}
```



### Plantilla de salm del cant anglicà

Aquesta plantilla mostra una forma de preparar un càntic salmòdic anglicà. També mostra com es poden afegir estrofes addicionals com text independent per sota de la música. Les dues estrofes es codifiquen en estils diferents per il·lustrar més possibilitats.

```
SopranoMusic = \relative g' {
  g1 | c2 b | a1 | \bar "||"
  a1 | d2 c | c b | c1 | \bar "||"
}

AltoMusic = \relative c' {
  e1 | g2 g | f1 |
```

```

    f1 | f2 e | d d | e1 |
}

TenorMusic = \relative a {
    c1 | c2 c | c1 |
    d1 | g,2 g | g g | g1 |
}

BassMusic = \relative c {
    c1 | e2 e | f1 |
    d1 | b2 c | g' g | c,1 |
}

global = {
    \time 2/2
}

dot = \markup {
    \raise #0.7 \musicglyph "dots.dot"
}

tick = \markup {
    \raise #1 \fontsize #-5 \musicglyph "scripts.rvarcomma"
}

% Use markup to center the chant on the page
\markup \fill-line {
    \score { % centered
        \new ChoirStaff <<
            \new Staff <<
                \global
                \clef "treble"
                \new Voice = "Soprano" <<
                    \voiceOne
                    \SopranoMusic
                >>
                \new Voice = "Alto" <<
                    \voiceTwo
                    \AltoMusic
                >>
            >>

            \new Staff <<
                \clef "bass"
                \global
                \new Voice = "Tenor" <<
                    \voiceOne
                    \TenorMusic
                >>
                \new Voice = "Bass" <<
                    \voiceTwo
                    \BassMusic
            >>
        >>
    }
}

```

```

>>
>>
>>

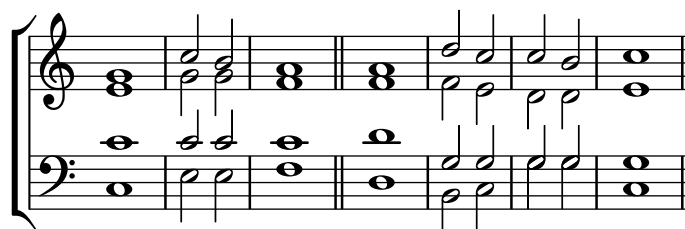
\layout {
  \context {
    \Score
    \override SpacingSpanner.base-shortest-duration =
      \musicLength 2
  }
  \context {
    \Staff
    \remove "Time_signature_engraver"
  }
}
} % End score
} % End markup

\markup \fill-line {
  \left-column {
    \null \null \null
    \line { \fontsize #5 0
      \fontsize #3 come
      let us \bold sing | unto \dot the | Lord : let }
    \line { us heartily \concat { re \bold joyce }
      in the | strength of | our }
    \line { sal | vation. }

    \null

    \line { \hspace #2.5 8. Today if ye will hear his voice * }
    \line { \concat { \bold hard en }
      \tick not your \tick hearts : as in the pro- }
    \line { vocation * and as in the \bold day of tempt- \tick }
    \line { -ation \tick in the \tick wilderness. }
  }
}

```



**O** come let us **sing** | unto • the | Lord : let  
us heartily **rejoice** in the | strength of | our  
sal | vation.

8. Today if ye will hear his voice \*  
**harden** ' not your ' hearts : as in the pro-  
vocation \* and as in the **day** of tempt- '  
-ation ' in the ' wilderness.

## Plantilla per a himnes

Aquest fragment de codi mostra una forma de preparar un himne quan cada línia comença amb un compàs parcial. També mostra com afegir els versos com a text independent a sota de la música.

```
Timeline = {
  \time 4/4
  \tempo 4=96
  \partial 2
  s2 | s1 | s2 \breathe s2 | s1 | s2 \caesura \break
  s2 | s1 | s2 \breathe s2 | s1 | s2 \fine
}

SopranoMusic = \relative g' {
  g4 g | g g g g | g g g g | g g g g | g2
  g4 g | g g g g | g g g g | g g g g | g2
}

AltoMusic = \relative c' {
  d4 d | d d d d | d d d d | d d d d | d2
  d4 d | d d d d | d d d d | d d d d | d2
}

TenorMusic = \relative a {
  b4 b | b b b b | b b b b | b b b b | b2
  b4 b | b b b b | b b b b | b b b b | b2
}

BassMusic = \relative g {
  g4 g | g g g g | g g g g | g g g g | g2
  g4 g | g g g g | g g g g | g g g g | g2
}

global = {
  \key g \major
}

\score { % Start score
  \new PianoStaff << % Start pianostaff
```



```

\new Staff << % Start Staff = RH
  \global
  \clef "treble"
  \new Voice = "Soprano" << % Start Voice = "Soprano"
    \Timeline
    \voiceOne
    \SopranoMusic
  >> % End Voice = "Soprano"
  \new Voice = "Alto" << % Start Voice = "Alto"
    \Timeline
    \voiceTwo
    \AltoMusic
  >> % End Voice = "Alto"
>> % End Staff = RH

\new Staff << % Start Staff = LH
  \global
  \clef "bass"
  \new Voice = "Tenor" << % Start Voice = "Tenor"
    \Timeline
    \voiceOne
    \TenorMusic
  >> % End Voice = "Tenor"
  \new Voice = "Bass" << % Start Voice = "Bass"
    \Timeline
    \voiceTwo
    \BassMusic
  >> % End Voice = "Bass"
>> % End Staff = LH
>> % End pianostaff
} % End score

\markup \fill-line {
  \left-column {
    "This is line one of the first verse"
    "This is line two of the same"
  }
  \null
  "And here's line one of the second verse"
  "And the next line of the same"
}

\layout {
  \context {
    \Score
    caesuraType = #'((bar-line . "||"))
    fineBarType = "||"
  }
}

\paper { % Start paper block
  indent = 0 % don't indent first system

```

```

line-width = 130    % shorten line length to suit music
tagline = ##f      % Don't print tag line, can be removed
} % End paper block

```



This is line one of the first verse  
 This is line two of the same

And here's line one of the second verse  
 And the next line of the same

## Plantilla per a combo de jazz

Això és una plantilla força avançada, per a un conjunt de jazz. Observeu que la notació de tots els instruments està a `\key c \major` (Do major). Això es refereix al to de concert; l'armadura es transporta automàticament si la música està dins d'una secció `\transpose`.

```

\header {
  title = "Song"
  subtitle = "(tune)"
  composer = "Me"
  meter = "moderato"
  piece = "Swing"
  tagline = \markup \column {
    "LilyPond example file by Amelie Zapf,"
    "Berlin 07/07/2003" }
}

% To make the example display properly in the documentation.
\paper {
  paper-width = 130\mm
  paper-height = 205\mm
}

% #(set-global-staff-size 16)

\include "english.ly"

```

```

%%%%%%%%%% Some macros %%%%%%%%%%%

```

```

sl = { \override NoteHead.style = #'slash
      \hide Stem }
nsl = { \revert NoteHead.style
      \undo \hide Stem }
crOn = \override NoteHead.style = #'cross
crOff = \revert NoteHead.style

% Insert chord name style stuff here.

jazzChords = { }

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% Keys 'n' thangs %%%%%%%%%%%%%
global = { \time 4/4 }

Key = { \key c \major }

% ##### Horns #####

% ----- Trumpet -----
trpt = \transpose c d \relative c' {
  \Key
  c1 | c | c |
}
trpHarmony = \transpose c' d {
  \jazzChords
}
trumpet = {
  \global
  \clef treble
  \trpt
}

% ----- Alto Saxophone -----
alto = \transpose c a \relative c' {
  \Key
  c1 | c | c |
}
altoHarmony = \transpose c' a {
  \jazzChords
}
altoSax = {
  \global
  \clef treble
  \alto
}

% ----- Baritone Saxophone -----
bari = \transpose c a' \relative c {
  \Key

```

```

    c1 | c1 |
    \sl d4^"Solo" d d d \ns1 |
}
bariHarmony = \transpose c' a \chordmode {
  \jazzChords
  s1 | s |
  d2:maj e:m7 |
}
bariSax = {
  \global
  \clef treble
  \bari
}

% ----- Trombone -----
tbone = \relative c {
  \Key
  c1 | c | c |
}
tboneHarmony = \chordmode {
  \jazzChords
}
trombone = {
  \global
  \clef bass
  \tbone
}

% ##### Rhythm Section #####

% ----- Guitar -----
gtr = \relative c'' {
  \Key
  c1 |
  \sl b4 b b b \ns1 |
  c1 |
}
gtrHarmony = \chordmode {
  \jazzChords
  s1 | c2:min7+ d2:maj9 | s1 |
}
guitar = {
  \global
  \clef treble
  \gtr
}

%% ----- Piano -----
rhUpper = \relative c'' {
  \voiceOne
  \Key
  c1 | c | c |

```

```

}
rhLower = \relative c' {
  \voiceTwo
  \Key
  e1 | e | e |
}

lhUpper = \relative c' {
  \voiceOne
  \Key
  g1 | g | g |
}
lhLower = \relative c {
  \voiceTwo
  \Key
  c1 | c | c |
}

PianoRH = {
  \clef treble
  \global
  <<
    \new Voice = "one" \rhUpper
    \new Voice = "two" \rhLower
  >>
}
PianoLH = {
  \clef bass
  \global
  <<
    \new Voice = "one" \lhUpper
    \new Voice = "two" \lhLower
  >>
}

piano = <<
  \new Staff = "upper" \PianoRH
  \new Staff = "lower" \PianoLH
>>

% ----- Bass Guitar -----
Bass = \relative c {
  \Key
  c1 | c | c |
}
bass = {
  \global
  \clef bass
  \Bass
}

```

```

% ----- Drums -----
up = \drummode {
  \voiceOne
  hh4 <hh sn> hh <hh sn> |
  hh4 <hh sn> hh <hh sn> |
  hh4 <hh sn> hh <hh sn> |
}
down = \drummode {
  \voiceTwo
  bd4 s bd s |
  bd4 s bd s |
  bd4 s bd s |
}

drumContents = {
  \global
  <<
    \new DrumVoice \up
    \new DrumVoice \down
  >>
}

%%%%%%%%%% It All Goes Together Here %%%%%%%%%%%

\book { % For the LilyPond documentation.
  \score {
    <<
      \new StaffGroup = "horns" <<
        \new Staff = "trumpet" \with { instrumentName = "Trumpet" }
        \trumpet
        \new Staff = "altosax" \with { instrumentName = "Alto Sax" }
        \altoSax
        \new ChordNames = "barichords" \with { instrumentName = "Bari Sax" }
        \bariHarmony
        \new Staff = "barisax" \with { instrumentName = "Bari Sax" }
        \bariSax
        \new Staff = "trombone" \with { instrumentName = "Trombone" }
        \trombone
      >>

      \new StaffGroup = "rhythm" <<
        \new ChordNames = "chords" \with { instrumentName = "Guitar" }
        \gtrHarmony
        \new Staff = "guitar" \with { instrumentName = "Guitar" }
        \guitar
        \new PianoStaff = "piano" \with {
          instrumentName = "Piano"
          midiInstrument = "acoustic grand"
        } \piano
        \new Staff = "bass" \with { instrumentName = "Bass" }
        \bass
        \new DrumStaff \with { instrumentName = "Drums" }
    >>
  }
}

```

```
        \drumContents
    >>
>>

\layout {
  \context {
    \Staff
    \RemoveEmptyStaves
  }
  \context {
    \Score
    \override BarNumber.padding = 3
    \override RehearsalMark.padding = 2
    skipBars = ##t
  }
}
\midi { }
}
```

## Song

(tune)

Me

moderato  
Swing

Trumpet

Alto Sax

Bari Sax

Trombone

Guitar

Piano

Bass

Drums

$B^{\Delta}$   $C^{\sharp}m^7$   
Solo

$Cm^{\Delta}$   $D^{\Delta 9}$

LilyPond example file by Amelie Zapf,  
Berlin 07/07/2003

### Plantilla d'orquestra amb cor i piano

Aquesta plantilla mostra l'ús de contextos `StaffGroup` i `GrandStaff` niuats per sub-agrupar instruments del mateix tipus, i una forma d'usar `\transpose` de manera que unes variables continguin la música per a instruments transpositors en afinació de concert.

```
#(set-global-staff-size 17)
```

```
\paper {
  indent = 3.0\cm % add space for instrumentName
  short-indent = 1.5\cm % add less space for shortInstrumentName
}
```



```

fluteMusic = \relative c' { \key g \major g'1 b }

% Pitches as written on a manuscript for Clarinet in A
% are transposed to concert pitch.
clarinetMusic = \transpose c' a
  \relative c'' { \key bes \major bes1 d }

trumpetMusic = \relative c { \key g \major g''1 b }

% Key signature is often omitted for horns
hornMusic = \transpose c' f
  \relative c { d'1 fis }

percussionMusic = \relative c { \key g \major g1 b }

sopranoMusic = \relative c'' { \key g \major g'1 b }
sopranoLyrics = \lyricmode { Lyr -- ics }

altoIMusic = \relative c' { \key g \major g'1 b }
altoILyrics = \sopranoLyrics
altoIIMusic = \relative c' { \key g \major g'1 b }
altoIILyrics = \lyricmode { Ah -- ah }

tenorMusic = \relative c' { \clef "treble_8" \key g \major g1 b }
tenorLyrics = \sopranoLyrics

pianoRHMus = \relative c { \key g \major g''1 b }
pianoLHMus = \relative c { \clef bass \key g \major g1 b }

violinIMusic = \relative c' { \key g \major g'1 b }
violinIIMusic = \relative c' { \key g \major g'1 b }

violaMusic = \relative c { \clef alto \key g \major g'1 b }

celloMusic = \relative c { \clef bass \key g \major g1 b }

bassMusic = \relative c { \clef "bass_8" \key g \major g,1 b }

\book {
  \score {
    <<
    \new StaffGroup = "StaffGroup_woodwinds" <<
      \new Staff = "Staff_flute" \with { instrumentName = "Flute" }
        \fluteMusic

      \new Staff = "Staff_clarinet" \with {
        instrumentName = \markup { \concat { "Clarinet in B" \flat } }
      }
      % Declare that written Middle C in the music
      % to follow sounds a concert B flat, for
      % output using sounded pitches such as MIDI.
      %\transposition bes
  }
}

```

```

    % Print music for a B-flat clarinet
    \transpose bes c' \clarinetMusic
>>

\new StaffGroup = "StaffGroup_brass" <<
  \new Staff = "Staff_hornI" \with {
    instrumentName = "Horn in F"
  }
  % \transposition f
  \transpose f c' \hornMusic

  \new Staff = "Staff_trumpet" \with {
    instrumentName = "Trumpet in C"
  }
  \trumpetMusic
>>

\new RhythmicStaff = "RhythmicStaff_percussion" \with {
  instrumentName = "Percussion"
}
  \percussionMusic

\new PianoStaff \with {
  instrumentName = "Piano"
} <<
  \new Staff { \pianoRHMusical }
  \new Staff { \pianoLHMusical }
>>

\new ChoirStaff = "ChoirStaff_choir" <<
  \new Staff = "Staff_soprano" \with {
    instrumentName = "Soprano"
  }
  \new Voice = "soprano" \sopranoMusical
  \new Lyrics \lyricsto "soprano" { \sopranoLyrics }

  \new GrandStaff = "GrandStaff_alto" \with {
    \accepts Lyrics
  } <<
  \new Staff = "Staff_altoI" \with {
    instrumentName = "Alto I"
  }
  \new Voice = "altoI"
  \altoIMusical
  \new Lyrics \lyricsto "altoI" { \altoILyrics }
  \new Staff = "Staff_altoII" \with {
    instrumentName = "Alto II"
  }
  \new Voice = "altoII"
  \altoIIMusical
  \new Lyrics \lyricsto "altoII" { \altoIILyrics }

```

```

>>

\new Staff = "Staff_tenor" \with {
  instrumentName = "Tenor"
}
  \new Voice = "tenor" \tenorMusic
  \new Lyrics \lyricsto "tenor" { \tenorLyrics }
>>

\new StaffGroup = "StaffGroup_strings" <<
  \new GrandStaff = "GrandStaff_violins" <<
    \new Staff = "Staff_violinI" \with {
      instrumentName = "Violin I"
    }
      \violinIMusic
    \new Staff = "Staff_violinII" \with {
      instrumentName = "Violin II"
    }
      \violinIIMusic
  >>

  \new Staff = "Staff_viola" \with {
    instrumentName = "Viola"
  }
    \violaMusic

  \new Staff = "Staff_cello" \with {
    instrumentName = "Cello"
  }
    \celloMusic

  \new Staff = "Staff_bass" \with {
    instrumentName = "Double Bass"
  }
    \bassMusic
  >>
}
}

```

Flute

Clarinet in B $\flat$

Horn in F

Trumpet in C

Percussion

Piano

Soprano

Alto I

Alto II

Tenor

Violin I

Violin II

Viola

Cello

Double Bass

Lyr - ics

Lyr - ics

Ah - ah

Lyr - ics

8

8

## Plantilla de piano (senzilla)

Presentem a continuació una plantilla de piano senzilla amb algunes notes.

```
upper = \relative c'' {
  \clef treble
  \key c \major
  \time 4/4

  a4 b c d
}

lower = \relative c {
  \clef bass
  \key c \major
  \time 4/4

  a2 c
}

\score {
  \new PianoStaff \with { instrumentName = "Piano" }
  <<
    \new Staff = "upper" \upper
    \new Staff = "lower" \lower
  >>
  \layout { }
  \midi { }
}
```



## Plantilla de piano amb lletra centrada

En comptes de tenir un pentagrama dedicat a la melodia i la lletra, la lletra es pot centrar entre els pentagrames d'un sistema de piano.

```
upper = \relative c'' {
  \clef treble
  \key c \major
  \time 4/4

  a4 b c d
}

lower = \relative c {
  \clef bass
  \key c \major
  \time 4/4
```

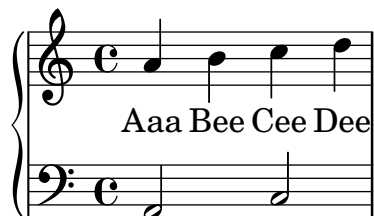
```

    a2 c
}

text = \lyricmode {
    Aaa Bee Cee Dee
}

\score {
  \new PianoStaff <<
    \new Staff = upper { \new Voice = "singer" \upper }
    \new Lyrics \lyricsto "singer" \text
    \new Staff = lower { \lower }
  >>
  \layout { }
  \midi { }
}

```



## Plantilla de piano amb melodia i lletra

Vet aquí el típic format d'una cançó: un pentagrama amb la melodia i la lletra, i el acompanyament de piano per sota.

```

melody = \relative c'' {
  \clef treble
  \key c \major
  \time 4/4

  a b c d
}

text = \lyricmode {
  Aaa Bee Cee Dee
}

upper = \relative c'' {
  \clef treble
  \key c \major
  \time 4/4

  a4 b c d
}

lower = \relative c {
  \clef bass
  \key c \major
  \time 4/4
}

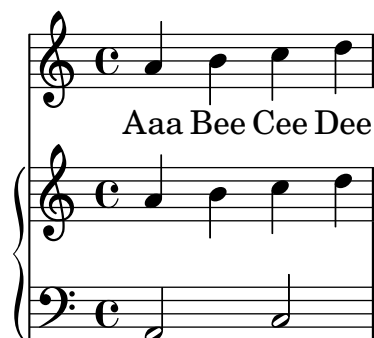
```

```

a2 c
}

\score {
  <<
    \new Voice = "mel" { \autoBeamOff \melody }
    \new Lyrics \lyricsto mel \text
    \new PianoStaff <<
      \new Staff = "upper" \upper
      \new Staff = "lower" \lower
    >>
  >>
  \layout {
    \context { \Staff \RemoveEmptyStaves }
  }
  \midi { }
}

```



## Plantilla de cor SATB, a quatre pentagrames

Plantilla de cor SATB (en quatre pentagrames)

```

global = {
  \key c \major
  \time 4/4
  \dynamicUp
}

sopranonotes = \relative c'' {
  c2 \p \< d c d \f
}

sopranowords = \lyricmode { do do do do }
altonotes = \relative c'' {
  c2\p d c d
}

altowords = \lyricmode { re re re re }
tenornotes = {
  \clef "G_8"
  c2\mp d c d
}

tenorwords = \lyricmode { mi mi mi mi }
bassnotes = {
  \clef bass

```

```

    c2\mf d c d
}
basswords = \lyricmode { mi mi mi mi }

\score {
  \new ChoirStaff <<
    \new Staff <<
      \new Voice = "soprano" <<
        \global
        \sopranonotes
      >>
      \new Lyrics \lyricsto "soprano" \sopranowords
    >>
    \new Staff <<
      \new Voice = "alto" <<
        \global
        \altonotes
      >>
      \new Lyrics \lyricsto "alto" \altowords
    >>
    \new Staff <<
      \new Voice = "tenor" <<
        \global
        \tenornotes
      >>
      \new Lyrics \lyricsto "tenor" \tenorwords
    >>
    \new Staff <<
      \new Voice = "bass" <<
        \global
        \bassnotes
      >>
      \new Lyrics \lyricsto "bass" \basswords
    >>
  >>
}

```





## Plantilla de pentagrama únic amb música, lletra i acords

Aquesta plantilla facilita la preparació d'una cançó amb melodia, lletra i acords.

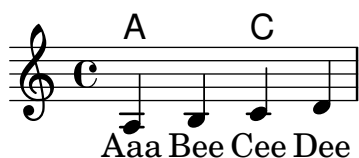
```
melody = \relative c' {
  \clef treble
  \key c \major
  \time 4/4

  a4 b c d
}

text = \lyricmode {
  Aaa Bee Cee Dee
}

harmonies = \chordmode {
  a2 c
}

\score {
  <<
    \new ChordNames {
      \set chordChanges = ##t
      \harmonies
    }
    \new Voice = "one" { \autoBeamOff \melody }
    \new Lyrics \lyricsto "one" \text
  >>
  \layout { }
  \midi { }
}
```



## Single-staff template with notes, lyrics, chords, and frets

Here is a simple lead sheet template with melody, lyrics, chords, and fret diagrams.

```

verseI = \lyricmode {
  \set stanza = #"1."
  This is the first verse
}

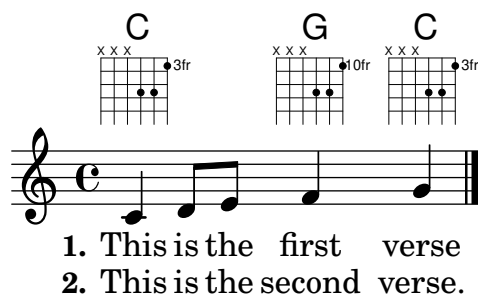
verseII = \lyricmode {
  \set stanza = #"2."
  This is the second verse.
}

theChords = \chordmode {
  % insert chords for chordnames and fretboards here
  c2 g4 c
}

staffMelody = \relative c' {
  \key c \major
  \clef treble
  % Type notes for melody here
  c4 d8 e f4 g
  \bar "|"
}

\score {
  <<
    \context ChordNames { \theChords }
    \context FretBoards { \theChords }
    \new Staff {
      \context Voice = "voiceMelody" { \staffMelody }
    }
    \new Lyrics = "lyricsI" {
      \lyricsto "voiceMelody" \verseI
    }
    \new Lyrics = "lyricsII" {
      \lyricsto "voiceMelody" \verseII
    }
  >>
  \layout { }
  \midi { }
}

```



1. This is the first verse  
2. This is the second verse.

## Plantilla de pentagrama únic amb música i acords

Voleu preparar un full guia d'acords (o «lead sheet») amb melodia i acords? No busqueu més!

```
melody = \relative c' {
  \clef treble
  \key c \major
  \time 4/4

  f4 e8[ c] d4 g |
  a2 ~ a
}

harmonies = \chordmode {
  c4:m f:min7 g:maj c:aug |
  d2:dim b4:5 e:sus
}

\score {
  <<
    \new ChordNames {
      \set chordChanges = ##t
      \harmonies
    }
    \new Staff \melody
  >>
  \layout{ }
  \midi { }
}
```



## Plantilla de pentagrama únic amb notes i lletra

Aquesta petita plantilla mostra una melodia senzilla amb lletra. Tal·leu-la i pegueu-la, escriviu les notes i després la lletra. Aquest exemple desactiva el barrat automàtic, que és el més freqüent a les parts vocals antigues. Per usar el barrat automàtic modifiqueu o marqueu com un comentari la línia corresponent.

```
melody = \relative c' {
  \clef treble
  \key c \major
  \time 4/4
```

```

a4 b c d
}

text = \lyricmode {
  Aaa Bee Cee Dee
}

\score{
  <<
    \new Voice = "one" {
      \autoBeamOff
      \melody
    }
    \new Lyrics \lyricsto "one" \text
  >>
  \layout { }
  \midi { }
}

```



## Plantilla d'un sol pentagrama, amb notes únicament

Aquesta plantilla senzilla prepara un pentagrama amb notes, adequat per a un instrument solista o un fragment melòdic. Talleu-lo i pegueu-lo a un fitxer, escriviu les notes, i ja està!

```

melody = \relative c' {
  \clef treble
  \key c \major
  \time 4/4

  a4 b c d
}

```

```

\score {
  \new Staff \melody
  \layout { }
  \midi { }
}

```



## Plantilla de quartet de cordas (senzilla)

Aquesta plantilla mostra un quartet de corda normal. També utilitza una secció `\global` per al compàs i l'armadura.

```

global= {

```

```

\time 4/4
\key c \major
}

violinOne = \new Voice \relative c' {
  c2 d
  e1
  \bar "|"
}

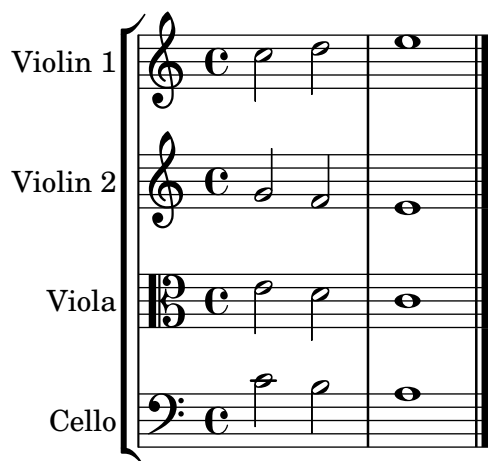
violinTwo = \new Voice \relative c' {
  g2 f
  e1
  \bar "|"
}

viola = \new Voice \relative c' {
  \clef alto
  e2 d
  c1
  \bar "|"
}

cello = \new Voice \relative c' {
  \clef bass
  c2 b
  a1
  \bar "|"
}

\score {
  \new StaffGroup <<
    \new Staff \with { instrumentName = "Violin 1" }
    << \global \violinOne >>
    \new Staff \with { instrumentName = "Violin 2" }
    << \global \violinTwo >>
    \new Staff \with { instrumentName = "Viola" }
    << \global \viola >>
    \new Staff \with { instrumentName = "Cello" }
    << \global \cello >>
  >>
  \layout { }
  \midi { }
}

```



## Plantilla de quartet de corda amb partícels independents

El fragment de codi “Plantilla de quartet de corda” produeix un resultat satisfactori per al quartet, però, i si hem d'imprimir les partícels? Aquesta nova plantilla mostra com usar la funcionalitat `\tag` (etiqueta) per dividir fàcilment una peça en partícels individuals.

Hem de dividir aquesta plantilla en fitxers independents; els noms de fitxer estan dins dels comentaris al principi de cada fitxer. `piece.ly` conté totes les definicions de música. Els altres fitxers (`score.ly`, `vn1.ly`, `vn2.ly`, `vla.ly` i `vlc.ly`) produeixen la partícula corresponent.

No oblideu treure els comentaris que hem especificat quan useu els fitxers independents!

```
% piece.ly
% (This is the global definitions file.)

global= {
  \time 4/4
  \key c \major
}

Violinone = \new Voice \relative c' {
  c2 d e1
  \bar "|."
}

Violintwo = \new Voice \relative c' {
  g2 g e1
  \bar "|."
}

Viola = \new Voice \relative c' {
  \clef alto
  e2 d c1
  \bar "|."
}

Cello = \new Voice \relative c' {
  \clef bass
  c2 b a1
  \bar "|."
}
```

```

}

music = <<
  \tag #'score \tag #'vn1
  \new Staff \with { instrumentName = "Violin 1" }
    << \global \Violinone >>

  \tag #'score \tag #'vn2
  \new Staff \with { instrumentName = "Violin 2" }
    << \global \Violintwo >>

  \tag #'score \tag #'vla
  \new Staff \with { instrumentName = "Viola" }
    << \global \Viola >>

  \tag #'score \tag #'vlc
  \new Staff \with { instrumentName = "Cello" }
    << \global \Cello >>
>>

% These are the other files you need to save on your computer

% score.ly
% (This is the main file.)

% Uncomment the line below when using a separate file.
% \include "piece.ly"

#(set-global-staff-size 14)

\score {
  \new StaffGroup \keepWithTag #'score \music
  \layout { }
  \midi { }
}

%{ Uncomment this block when using separate files.

% vn1.ly
% (This is the Violin 1 part file.)

\include "piece.ly"
\score {
  \keepWithTag #'vn1 \music
  \layout { }
}

% vn2.ly
% (This is the Violin 2 part file.)

```

```

\include "piece.ly"
\score {
  \keepWithTag #'vn2 \music
  \layout { }
}

% vla.ly
% (This is the Viola part file.)

\include "piece.ly"
\score {
  \keepWithTag #'vla \music
  \layout { }
}

% vlc.ly
% (This is the Cello part file.)

\include "piece.ly"
\score {
  \keepWithTag #'vlc \music
  \layout { }
}

%}

```

Violin 1

Violin 2

Viola

Cello

## Plantilla de conjunt vocal

Vet aquí una partitura vocal estàndard per a quatre veus SATB. Amb grups més grans, sol ser útil incloure una secció que aparegui a totes les parts. Per exemple, el compàs i l'armadura gairebé sempre son els mateixos per a totes. Com a la plantilla “Himne”, les quatre veus es reagrupen en sols dos pentagrames.

```

\paper {
  top-system-spacing.basic-distance = 10
  score-system-spacing.basic-distance = 20
  system-system-spacing.basic-distance = 20
  last-bottom-spacing.basic-distance = 10
}

global = {
  \key c \major
  \time 4/4

```



```

}

sopMusic = \relative {
  c''4 c c8[( b)] c4
}
sopWords = \lyricmode {
  hi hi hi hi
}

altoMusic = \relative {
  e'4 f d e
}
altoWords = \lyricmode {
  ha ha ha ha
}

tenorMusic = \relative {
  g4 a f g
}
tenorWords = \lyricmode {
  hu hu hu hu
}

bassMusic = \relative {
  c4 c g c
}
bassWords = \lyricmode {
  ho ho ho ho
}

\score {
  \new ChoirStaff <<
    \new Lyrics = "sopranos" \with {
      % this is needed for lyrics above a staff
      \override VerticalAxisGroup.staff-affinity = #DOWN
    }
    \new Staff = "women" <<
      \new Voice = "sopranos" {
        \voiceOne
        << \global \sopMusic >>
      }
      \new Voice = "altos" {
        \voiceTwo
        << \global \altoMusic >>
      }
    >>
    \new Lyrics = "altos"
    \new Lyrics = "tenors" \with {
      % this is needed for lyrics above a staff
      \override VerticalAxisGroup.staff-affinity = #DOWN
    }
    \new Staff = "men" <<

```

```

\clef bass
\new Voice = "tenors" {
  \voiceOne
  << \global \tenorMusic >>
}
\new Voice = "basses" {
  \voiceTwo << \global \bassMusic >>
}
>>
\new Lyrics = "basses"
\context Lyrics = "sopranos" \lyricsto "sopranos" \sopWords
\context Lyrics = "altos" \lyricsto "altos" \altoWords
\context Lyrics = "tenors" \lyricsto "tenors" \tenorWords
\context Lyrics = "basses" \lyricsto "basses" \bassWords
>>
}

```



## Plantilla de conjunt vocal amb reducció de piano automàtica

Aquesta plantilla afegeix una reducció de piano automàtica a la partitura vocal SATB estàndard que es va mostrar a la “Plantilla de conjunt vocal”. Això presenta un dels punts forts del LilyPond: podem usar una definició de música més d’un cop. Si es fa qualsevol canvi a les notes de la part vocal (diguem `tenorMusic`), aleshores els canvis s’aplicaran també a la reducció de piano.

```

\paper {
  top-system-spacing.basic-distance = 10
  score-system-spacing.basic-distance = 20
  system-system-spacing.basic-distance = 20
  last-bottom-spacing.basic-distance = 10
}

global = {
  \key c \major
  \time 4/4
}

sopMusic = \relative {
  c''4 c c8[( b)] c4
}

sopWords = \lyricmode {
  hi hi hi hi
}

```

```

}

altoMusic = \relative {
  e'4 f d e
}
altoWords = \lyricmode {
  ha ha ha ha
}

tenorMusic = \relative {
  g4 a f g
}
tenorWords = \lyricmode {
  hu hu hu hu
}

bassMusic = \relative {
  c4 c g c
}
bassWords = \lyricmode {
  ho ho ho ho
}

\score {
  <<
    \new ChoirStaff <<
      \new Lyrics = "sopranos" \with {
        % This is needed for lyrics above a staff
        \override VerticalAxisGroup.staff-affinity = #DOWN
      }
      \new Staff = "women" <<
        \new Voice = "sopranos" { \voiceOne << \global \sopMusic >> }
        \new Voice = "altos" { \voiceTwo << \global \altoMusic >> }
      >>
      \new Lyrics = "altos"

      \new Lyrics = "tenors" \with {
        % This is needed for lyrics above a staff
        \override VerticalAxisGroup.staff-affinity = #DOWN
      }
      \new Staff = "men" <<
        \clef bass
        \new Voice = "tenors" { \voiceOne << \global \tenorMusic >> }
        \new Voice = "basses" { \voiceTwo << \global \bassMusic >> }
      >>
      \new Lyrics = "basses"

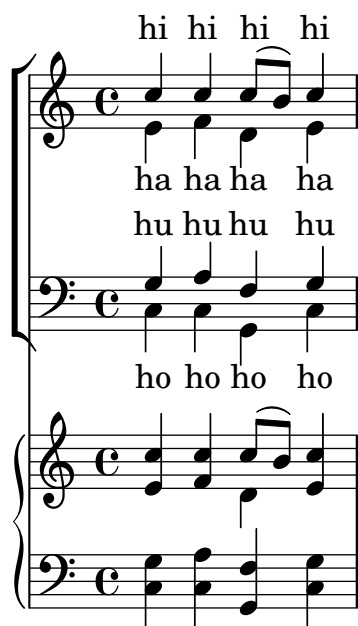
      \context Lyrics = "sopranos" \lyricsto "sopranos" \sopWords
      \context Lyrics = "altos" \lyricsto "altos" \altoWords
      \context Lyrics = "tenors" \lyricsto "tenors" \tenorWords
      \context Lyrics = "basses" \lyricsto "basses" \bassWords
    >>
  >>
}

```

```

\new PianoStaff <<
  \new Staff <<
    \set Staff.printPartCombineTexts = ##f
    \partCombine
    << \global \sopMusic >>
    << \global \altoMusic >>
  >>
  \new Staff <<
    \clef bass
    \set Staff.printPartCombineTexts = ##f
    \partCombine
    << \global \tenorMusic >>
    << \global \bassMusic >>
  >>
>>
>>
}

```



## Plantilla per a conjunt amb lletres alineades a sobre i a sota dels pentagrames

Aquesta plantilla és, bàsicament, la mateixa que la senzilla plantilla “Conjunt vocal”, excepte que aquí totes les línies de lletra es col·loquen utilitzant `alignAboveContext` i `alignBelowContext`.

```

global = {
  \key c \major
  \time 4/4
}

sopMusic = \relative c'' {
  c4 c c8[( b)] c4
}

sopWords = \lyricmode {

```

```

    hi hi hi hi
}

altoMusic = \relative c' {
    e4 f d e
}
altoWords = \lyricmode {
    ha ha ha ha
}

tenorMusic = \relative c' {
    g4 a f g
}
tenorWords = \lyricmode {
    hu hu hu hu
}

bassMusic = \relative c {
    c4 c g c
}
bassWords = \lyricmode {
    ho ho ho ho
}

\score {
  \new ChoirStaff <<
    \new Staff = "women" <<
      \new Voice = "sopranos" { \voiceOne << \global \sopMusic >> }
      \new Voice = "altos" { \voiceTwo << \global \altoMusic >> }
    >>
    \new Lyrics \with { alignAboveContext = "women" }
      \lyricsto "sopranos" \sopWords
    \new Lyrics \with { alignBelowContext = "women" }
      \lyricsto "altos" \altoWords
    % we could remove the line about this with the line below, since
    % we want the alto lyrics to be below the alto Voice anyway.
    % \new Lyrics \lyricsto "altos" \altoWords

    \new Staff = "men" <<
      \clef bass
      \new Voice = "tenors" { \voiceOne << \global \tenorMusic >> }
      \new Voice = "basses" { \voiceTwo << \global \bassMusic >> }
    >>
    \new Lyrics \with { alignAboveContext = "men" }
      \lyricsto "tenors" \tenorWords
    \new Lyrics \with { alignBelowContext = "men" }
      \lyricsto "basses" \bassWords
    % again, we could replace the line above this with the line below.
    % \new Lyrics \lyricsto "basses" \bassWords
  >>
}

```



## Estrofa per a solista i tornada a dues veus

Aquesta plantilla crea una partitura que comença amb una estrofa per a solista i continua amb una tornada a dues veus. També mostra l'ús de silencis de separació dins de la variable `\global` per definit canvis de compàs (i altres exemple que són comuns a totes les parts) al llarg de tota la partitura.

```

global = {
  \key g \major

  % verse
  \time 3/4
  s2.*2
  \break

  % refrain
  \time 2/4
  s2*2
  \bar "|"
}

SoloNotes = \relative g' {
  \clef "treble"

  % verse
  g4 g g |
  b4 b b |

  % refrain
  R2*2 |
}

SoloLyrics = \lyricmode {
  One two three |
  four five six |
}

SopranoNotes = \relative c'' {
  \clef "treble"

  % verse

```

```

R2.*2 |

% refrain
c4 c |
g4 g |
}

SopranoLyrics = \lyricmode {
  la la |
  la la |
}

BassNotes = \relative c {
  \clef "bass"

  % verse
  R2.*2 |

  % refrain
  c4 e |
  d4 d |
}

BassLyrics = \lyricmode {
  dum dum |
  dum dum |
}

\score {
  <<
    \new Voice = "SoloVoice" << \global \SoloNotes >>
    \new Lyrics \lyricsto "SoloVoice" \SoloLyrics

    \new ChoirStaff <<
      \new Voice = "SopranoVoice" << \global \SopranoNotes >>
      \new Lyrics \lyricsto "SopranoVoice" \SopranoLyrics

      \new Voice = "BassVoice" << \global \BassNotes >>
      \new Lyrics \lyricsto "BassVoice" \BassLyrics
    >>
  >>

  \layout {
    ragged-right = ##t
    \context { \Staff
      % these lines prevent empty staves from being printed
      \RemoveEmptyStaves
      \override VerticalAxisGroup.remove-first = ##t
    }
  }
}

```

One two three four five six

la la la la

dum dum dum dum

The image shows two musical staves. The top staff is a single treble clef in 3/4 time, with a key signature of one sharp (F#). It contains six quarter notes: G4, A4, B4, C5, B4, and A4. Below the staff are the lyrics 'One two three four five six'. The bottom staff is a grand staff (treble and bass clefs) in 3/4 time, with a key signature of one sharp (F#). It contains four quarter notes: G4, A4, B4, and C5. Below the staff are the lyrics 'la la la la' for the treble staff and 'dum dum dum dum' for the bass staff. A brace on the left side of the grand staff indicates it is a single melodic line.