

# conchord reference

## 1. Chord tabstring generation

```
get-chords(name: str, tuning: str, at: int | None, true-bass) -> array[str]
```

Gets all possible chord strings with given tuning (and optionally at given fret) Complex chord with omitted perfect fifth will have ? in end

<pre>#get-chords("Cmaj7").slice(0, 10)</pre>	<pre>(     "x32000",     "x35000",     "x32003",     "x32400?",     "x35400",     "x35500",     "x32500?",     "x32403",     "x3x000",     "x35450", )</pre>
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### Parameters:

name (str) – Chord name

tuning (str = default-tuning) – Tuning in format “A B C”

at (int or None = None) – What fret to find chords at

true-bass (= true) – Whether to require the lowest note to be the root note. Note that doesn't affect chords with / that set bass, like A/E. You can abuse it to make chords have true bass with Am/A.

Best to leave true for guitar, but false for ukulele, where the bas is not as important

```
get-chord(name, n, tuning, at)
```

Gets individual chord string

```
default-tuning
```

Classic 6-string Guitar tuning: E1 A1 D2 G2 B2 E3

## 2. Chord drawing

```
new-chordgen(  
  shadow-barre: int ,  
  string-number: int ,  
  scale-length: length ,  
  colors: dictionary ,  
  number-to-left: boolean ,  
  thick-nut: boolean ,  
  use-shadow-barre: bool  
) -> function[(tabs, name, scale-l)→chord]
```

1. Creates a new chordgen: a new function that takes tabstring, name and scale-length and returns a rendered chord block

### Parameters:

shadow-barre (int = 0) – length of semi-visible upper part of barre (default 0)

string-number (int = 6) – number of strings of the instrument, default is 6

scale-length (length = 1pt) – outputs canvas with roughly height=80 \* scale-length and width=((string-number + 1)10 + 5) scale-length

colors (dictionary = (:)) – colors: dictionary with colors for image

- grid: color of grid, default is gray.darken(20%)
- open: color of circles for open strings, default is black
- muted: color of crosses for muted strings, default is black
- hold: color of held positions, default is #5d6eaf
- barre: color of main barre part, default is #5d6eaf
- shadow-barre: color of “unnecessary” barre part, default is #5d6eaf.lighten(30%)

colors and other properties of fret and chord name you can specify using show rules for text and raw (fret is raw)

number-to-left (boolean = false) – whether to display to the left

thick-nut (boolean = true) – whether to draw thick nut

use-shadow-barre (bool = true) – Whether to use shadow barre

```
get-chordgram-width-scale(n-strings: int) -> float
```

2. The width of the chord diagram will be roughly this \* scape-length

### Parameters:

n-strings (int) – Number of strins in chord

```
parse-tabstring(string-tab) -> (array, boolean)
```

3. Parses tabstring

```

generate-chord(
  tabs: array[int | "x"] ,
  name: str ,
  string-number: int ,
  force-barre: int ,
  use-shadow-barre: bool ,
  scale-length,
  colors,
  number-to-left,
  thick-nut
) -> chord

```

4. Generates chord image with simple rules, for inner use mostly

#### Parameters:

`tabs ( array[int | "x"] )` – array of parsed tabstring, “x” (mute) and numbers are accepted

`name ( str = "" )` – displayed name

`string-number ( int = 6 )` – total number of strings instrument has

`force-barre ( int = 0 )` – 0 → standard algorithm, 1 → force add barre, -1 → force avoid barre

`scale-length (= 1pt)` – see new-chordgen for this and other parameters

```

render-chord(
  hold: array[(int, int)] ,
  open: array[int] ,
  muted: array[int] ,
  fret-number: int ,
  name: str ,
  barre: int ,
  barre-shift: int ,
  shadow-barre: int ,
  string-number: int ,
  scale-length: length ,
  colors: dictionary ,
  number-to-left: boolean ,
  thick-nut: boolean
) -> chord

```

5. Renders the chord

*Important:* for the convenience there all strings are numbered *from the top* (e.g. A will be 1)

#### Parameters:

`hold ( array[(int, int)] )` – array of coords of positions held; string first, then shift

`open ( array[int] )` – array of numbers of opened strings

`muted ( array[int] )` – array of numbers for muted

`fret-number ( int )` – the starting fret

`name ( str )` – displayed name

`barre (int = 0)` – length of barre if present; ZERO means NO  
`barre-shift (int = 0)` – shift of the barre; usually no, but there are exceptions  
`shadow-barre (int = 0)` – length of semi-visible upper part of barre (default 0)  
`string-number (int = 6)` – number of strings of the instrument, default is 6  
`scale-length (length = 1pt)` – outputs canvas with roughly height=80 \* scale-length and width=((string-number + 1)10 + 5) scale-length  
`colors (dictionary = (:))` – colors: dictionary with colors for image
 

- grid: color of grid, default is `gray.darken(20%)`
- open: color of circles for open strings, default is black
- muted: color of crosses for muted strings, default is black
- hold: color of held positions, default is `#5d6eaf`
- barre: color of main barre part, default is `#5d6eaf`
- shadow-barre: color of “unnecessary” barre part, default is `#5d6eaf.lighten(30%)`

colors and other properties of fret and chord name you can specify using show rules for text and raw (fret is raw)

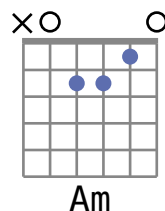
`number-to-left (boolean = false)` – whether to display to the left  
`thick-nut (boolean = true)` – whether to draw thick nut

### 3. Smart chord

```
smart-chord(
  name: str,
  chordgen,
  n: int,
  tuning,
  true-bass,
  at,
  scale-l
) -> chord
```

1. Function that renders chord by its name

```
#smart-chord("Am")
```



#### Parameters:

`name (str)` – chord name

`chordgen (= red-missing-fifth)` – chordgen to use, the default one marks imperfect chords with red hold points

`n (int = 0)` – number of chord to select, the “best” is zero

tuning (= default-tuning) – tuning string in format “A B C D E”

true-bass (= true) – whether to require the lowest note to be the root note

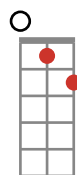
at (= none) – at which fret to search chord

scale-l (= 1pt) – see draw-chord for reference

```
red-missing-fifth(tabs, name, scale-l) -> chord
```

2. A chordgen that marks missing perfect fifth chords with red hold points. That means chords with ? in the end will be *red*.

```
#red-missing-fifth("012?")
```



## 4. Song sheets

```
overchord(  
  text: str,  
  styling: (text <chord> => content),  
  align: alignment,  
  height: length,  
  width: length  
) -> chord
```

1. A simple function to place chord over text. Attaches tag to the text to apply tonality and make a chordlib. May be replaced with any custom.

Just add chord labels above lyrics in arbitrary place, don't think about what letter exactly it should be located. By default overchord aligns the chord label to the left, so it produces pretty results out-of-box. You can pass other alignments to align argument, or use the chords straight inside words.

Feel free to use it for your purposes outside of the package.

It takes on default -0.25em width to remove one adjacent space, so

- To make it work on monospace/other special fonts, you will need to adjust width argument.  
The problem is that I can't measure space, but maybe that will be eventually fixed.
- To add chord inside word, you have to add *one* space, like wo #chord[Am]rd.

### Parameters:

text (str) – chord name to attach. Should be plain string for tagging to work

styling ((text <chord> => content = strong) – styling function that is applied to the string

align (alignment = start) – alignment of the word above the point

height (length = 1em) – height of the chords

width (length = -0.25em) – width of space in current font, may be set to zero if you don't put any spaces between chords and words

```
inlinechord(text, styling) -> content
```

1a. A replacement for overchord, displays chords inline in (double) square brackets

```
fulloverchord(  
  name: string ,  
  styling: (text <chord>) => content ,  
  align: alignment ,  
  height: length ,  
  width: length ,  
  smart-chord,  
  scale-length,  
  ..args  
) -> content
```

1b. An overchord alternative, displays a chord above line that is changed with tonality

#### Parameters:

name (string) – chord name

styling ((text <chord>) => content = strong) – styling function that is applied to the string

align (alignment = start) – alignment of the word above the point

height (length = 40pt) – height of the chords

width (length = -0.25em) – width of space in current font, may be set to zero if you don't put any spaces between chords and words

```
chordify(doc: content, squarechords: boolean, line-chord: function(name) -> content ,  
  heading-reset-tonality) -> content
```

2. Use #show: chordify in your document to allow auto square chords formatting and automatic tonality change inspired by soxfox42's chordish

#### Parameters:

doc (content) – the document to apply show rule

squarechords (boolean = true) – enable square brackets chords writing

line-chord (function(name) -> content = overchord) – function to apply to the chord names

```

chordlib(
    smart-chord,
    chordgen,
    tuning: str,
    true-bass,
    exclude: array[str],
    switch: dictionary[int],
    at: dictionary[int none],
    scale-l: length,
    heading-level: int
) -> sequence[content]

```

3. Render all chords of current song.

- Set header-level to set headings that separate the different songs. If none, all chords in document will be rendered.

*This must be inside context to work*

#### Parameters:

`smart-chord` (= `smart-chord`) – smart chord function to use

`chordgen` (= `red-missing-fifth`) – chordgen for smart-chord

`tuning` (`str` = `default-tuning`) – tuning to use in “A B C D” format

`true-bass` (= `true`) – whether to require the lowest note to be the root note

`exclude` (`array[str]` = `()`) – chords not to draw, can be added manually in format (“Am”, ...)

`switch` (`dictionary[int]` = `()`) – versions of chords to use (default zero is the “best”) in format (Am: 2, ...)

`at` (`dictionary[int or none]` = `()`) – at witch fret to find the best chord in format (Am: 5, ...)

`scale-l` (`length` = `1pt`) – scale length, see `draw-chord`

`heading-level` (`int` = `none`) – heading level to search chords within

```

sized-chordlib(
    N: int,
    width: length,
    prefix: content,
    postfix: content,
    inset,
    ..args
) -> content

```

4. Draw a nice box with chords inside

#### Parameters:

`N` (`int` = `2`) – number of chords inside a box

`width` (`length` = `130pt`) – width of the box

`prefix` (`content` = `none`) – content to add at chords start

`postfix (content = none)` – content to add at chords end (e.g., some excluded chords)

`inset (= 10pt)` – inset for block to use

`..args ()` – all the other args of chordlib

```
change-tonality(tonality-shift: int) -> content
```

5. Changes current tonality shift to given number This is just metadata, so you need to put into document to have any effect

**Parameters:**

`tonality-shift (int)` – number of halftones to move tonality

```
auto-tonality-chord(name: str, smart-chord: function(name, ..args) -> chord ,  
  ..args: any) -> chord
```

6. Smart chord that changes tonality automatically

**Parameters:**

`name (str)` – chord name

`smart-chord (function(name, ..args) -> chord = smart-chord)` – smart chord method to use

`..args (any)` – arguments for smart-chord

```
get-tonality(loc: content location) -> int
```

7. get current tonality in document

**Parameters:**

`loc (content or location)` – Element that has location or location

```
shift-chord-tonality(chord: str, tonality: int) -> str
```

8. Shifts tonality of given chord name by given amount with regexes

**Parameters:**

`chord (str)` – chord name

`tonality (int)` – number of halftones to move tonality



```
inside-level-selector(select, heading-level) -> selector
```

Utility function Selects all things inside current “chapter”

## 5. Tabs

```
new(  
  tabs: raw ,  
  preamble: cetz drawing ,  
  extra: cetz drawing ,  
  eval-scope: dictionary ,  
  scale-length: length ,  
  s-num: int ,  
  one-beat-length: float ,  
  line-spacing: float ,  
  enable-scale: boolean ,  
  colors: dictionary ,  
  autoscale-max: float ,  
  autoscale-min: float ,  
  draw-rhythm,  
  debug-render: int none ,  
  debug-numbers: bool  
) -> content
```

Creates a new tab line

### Parameters:

`tabs (raw)` – the tab code; see README for rough specification

`preamble (cetz drawing = none)` – what to add at the “start” of tab canvas

`extra (cetz drawing = none)` – what to add at the “end” of tab canvas

`eval-scope (dictionary = (:))` – scope for your code for custom elements

`scale-length (length = 0.3cm)` – canvas scale length

`s-num (int = 6)` – number of strings

`one-beat-length (float = 8)` – length in cetz points of one beat

`line-spacing (float = 3)` – spacing between the lines

`enable-scale (boolean = true)` – enable smart scaling for better fitting to line

`colors (dictionary = (:))` – colors of things, see README

`autoscale-max (float = 3.0)` – maximum scaling for smart scale

`autoscale-min (float = 0.9)` – minimal scaling for smart scale

`draw-rhythm (= false)` – draw “rhythm” bar

`debug-render (int or none = none)` – render this number of notes only

`debug-numbers (bool = false)` – draw numbers of step