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

```
#get-chords("Cmaj7").slice(0, 10)
```

```
(
  "x32000",
  "x35000",
  "x32003",
  "x32400?",
  "x35400",
  "x35500",
  "x32500?",
  "x32403",
  "x3x000",
  "x35450",
)
```

Parameters:

`name` (`str`) – Chord name

`tuning` (`str` = `default-tuning`) – Tuning in format “A1 B2 C3”

`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,
    true-bass
  )
```

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: str) -> (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

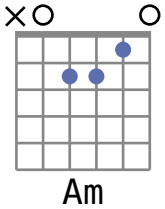
`thick-nut` (`boolean` = `true`) – whether to draw thick nut

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 “A1 B2 C3 D4”

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

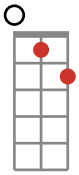
`at` (= `none`) – at which fret to search chord

`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?")
```



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

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

Parameters:

`chord` (`str`) – chord name

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

```
chord-notes(tabstring: str, tuning: str) -> array
```

Gives the played notes by the tabstring

Parameters:

`tuning` (`str`) – the same format as everywhere

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 for chords writing

`line-chord` (`function(name) → content` = `overchord`) – function applying to the chord names when square brackets are used

```
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 "A1 B2 C3 D4" 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 one line

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

`prefix` (`content` = `none`) – content to add to chordbox start

`postfix` (`content` = `none`) – content to add to 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`

```
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