Português (Portugal) → Inglês ⌄   ⋮   ⌄

Informatics for Musicology (IPM) 2024/25

Jupyter Notebooks

Teacher: JN Oliveira

Department of IT at U. Minho, in collaboration with 📖 ENSICO

➡️ Catalog of operations studied and used in the Jupyter environment

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Basic :

Designation	Meaning	Detailed description
`succ`	successor	once an order is assumed, `succ x` it will look for the next element of `x` , in that order
`pred`	predecessor	reverse of the previous
`(==)`	equality	`a == b` says if `a` and `b` are the same object
`f . g`	after	apply `f` after `g` , that is: `(f . g) a = f (g a)`
`id`	do nothing	`id x = x` whatever `x`
`show`	designate	`show x` give the word that designates `x` , for example `show 3 = "3"`

Sequences :

Designation	Meaning	Detailed description
`(++)`	junction	`x ++ y` joins the two sequences `x` into `y` one

Designation	Meaning	Detailed description
`(:)`	affix	`a:x` It's the same thing as joining `[a] ++ x`
`drop i`	get suffix	eliminates the first i -elements of the sequence
`filter p`	filtering	`filter p m` will select the elements that `m` obey the condition `p`
`head`	get head	get the first element of a sequence, if any
`i ⊗ x`	repetition	`i ⊗ x` repeat `x` `i` –times (example: `2 ⊗ x = x ++ x`)
`init`	get initials	get all but the last element of a sequence if any
`intersperse`	intercalation	`intersperse a x` Interleaves `a` between all elements of the sequence `x`
`last`	get last	get the last element of a sequence, if any
`length`	length	gives the number of letters in a word or, in the general case, the length of a sequence
`lines`	lines of text	divides a text into the sequence of its lines
`map`	applies to everyone	`map f s` applies the operation `f` to all elements of the sequence `s` , in the order in which they occur
`nub`	removal of duplicates	eliminate repeated elements from a sequence
`reverse`	inversion	reverse a sequence
`rotl`	rotation	rotates a list to the left, for example `rotl [a, ..., b,c] = [c,a, ..., b]`
`rotr`	rotation	rotates a list to the right, for example `rotr [a,b, ..., c] = [b, ..., c,a]`
`sel`	selection	`sel i x` selects elements `x` according to the positions indicated in `i`
`sort`	ordering	sort a sequence in ascending order
`sum`	summation	sums all elements of a numerical sequence
`tail`	get tail	get all but the first element of a sequence if any
`take i`	get prefix	gives the first i -elements of the sequence
`unlines`	inverse of `lines`	joins a sequence of lines into a single text
`unwords`	inverse of `words`	joins words into a single sentence, separated by spaces

Designation	Meaning	Detailed description
`words`	words in a sentence	divides a sentence into the sequence of its words

Pairs :

Designation	Meaning	Detailed description
`fst`	the first	gives the first element of the pair `(a,b)` , that is `a`
`snd`	the second	gives the second element of the pair `(a,b)` , that is `b`
`f × g`	parallel	applies `f` and `g` in parallel, ie at the same time: `(f × g)(a,b)=(f a, g b)` . Because it is more practical, we often use it `f >< g` instead of `f × g`

Pair sequences (music):

Designation	Meaning	Detailed description
`chordify`	chords (horizontal axis)	`chordify s m` groups the notes `m` into chords according to prescribed durations in `s`
`dchords`	chords (vertical axis)	`dchords d [a,b,..]` performs a verticalization and converts it into chords according to Abc notation
`dchunksOf`	divide into blocks	`dchunksOf d m` divides melody `m` into a sequence of (sub)melodies according to durations specified in `d`
`dcut`	break song into two parts	`(a,b) = dcut d m` means that in `a` we will have `dtake d m` and in `b` we will have `ddrop d m`
`ddrop`	get suffix by duration	`ddrop d m` Search for notes that `dtake d m` you did not select
`dtake`	get prefix by duration	`dtake d m` will fetch as many notes as possible and `m` even predict the duration `d`
`dvert`	verticalization	`dvert d [a,b,..]` vertically groups the notes of several melodic lines `[a,b,..]` previously sampled by `d`

Designation	Meaning	Detailed description
`harp`	arpeggiate	`harp (n,d)` arpeggiates the chord `(n,d)` by dividing the duration `d` by the number of notes `n`
`nrep`	"ligatures"	consecutive notes with the same pitch are linked into a single note with the corresponding total duration
`nsort`	sort notes	orders sequence of notes by their pitch (according to Abc notation)
`sample`	sampling	`sample s m` sample the melody `m` according to the sequence of durations `s`
`unzip`	the opposite of `zip`	`(a,b) = unzip m` means that in `a` we will have `map fst m` and in `b` we will have `map snd m`
`zip`	pairing	`zip a b` pairs the sequences `a` and `b` creating a sequence of pairs
`delay`	delay music	`delay d m` delays the song `m` by adding duration to it `d` in pauses

Bars (music)

The following measures are predefined:

Designation	Meaning	Detailed description
`una`	unary	barlines at each quarter note ($\frac{1}{4}$)
`bin`	binary	barlines every 2 quarter notes ($\frac{2}{4}$)
`tern`	ternary	barlines every 3 quarter notes ($\frac{3}{4}$)
`quatern`	quaternary	barlines for each semibreve (1)
`half`	to the eighth note	barlines at each eighth note ($\frac{1}{8}$)

They can be used as indicated below.

ABC (song):

Designation	Meaning	Detailed description
abcPlayM	show sheet music	`abcPlay K C m` – shows the score `m` with key signature `K`, `C` time signature and barlines (regular) deducted from `C`
abcPlay_	show sheet music	`abcPlay_ K C m` shows the sheet music of `m` with key signature `K` and time signature `C`
abcPlay	show sheet music	`abcPlay K C c m` – shows the score of `m` with key signature `K`, `C` time signature and barlines (possibly irregular) according to `c`
abcnotes	show notes	`abcnotes m` shows the sequence of notes `m` all as semibreves, without signature or time signature
abcplease	show sheet music	`abcplease m` shows the score of `m` without key signature or time signature, nor barlines
collapse	force the octave 4	`collapse m` is the song `m` forced not to leave the octave that starts in $C_4$$W_4$
octave	octave below or above	`octave i m` is music `m` `i` octaves up or down, if ABC notation is being used

In [ ]: