

Package ‘timeLineGraphics’

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Title HTML with Horizontal Strips Symbolizing Events in a Person's Life

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Depends R (>= 4.2.0)

Imports magick, berryFunctions, graphics, R2HTML, pdftools

Description Produce an HTML page containing horizontal strips that symbolize events in a person's life. Since this is entirely a visualization, the image <<https://barryzee.github.io/henry-timeline/henry.html>> will show the basic use to show a timeline of events. The image <<https://barryzee.github.io/vermeer/cssOverlay.html>> shows how to correlate two timelines of events. A brief description is available at <https://barryzee.github.io/timeLineGraphics_manuscript/golden_age.html>.

License GPL (>= 2)

Encoding UTF-8

VignetteBuilder knitr

Suggests knitr, rmarkdown, testthat (>= 3.0.0)

RoxxygenNote 7.2.2

Config/testthat/edition 3

NeedsCompilation no

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Repository CRAN

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aspectRatio	<i>aspectRatio</i>
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Description

compute ratio needed for maintaining proper aspect ratio in graph overlay image

Usage

aspectRatio(rim)

Arguments

rim is rasterized version of im

Value

numerical ratio needed for maintaining proper aspect ratio in graph overlay image

Examples

```
aspectRatio(as.raster(magick::image_read(example2()[[1]]$pics[[1]])))
```

backFitRaster	<i>backFitRaster</i>
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Description

given a maximum vertical size in inches that is allowable, find x size of raster image

Usage

backFitRaster(y2x, maxy, ymargin)

Arguments

y2x is original aspect ratio of image
maxy is max vertical size in inches
ymargin is fraction of maxy to leave as top and bottom margin

Details

graph units<-yinch(y in inches)

Value

numerical x size of raster image

Examples

backFitRaster(1.333,10,.05)

example2	<i>example2</i>
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Description

generate structured list for mockup example

Usage

example2()

Value

structured list for mockup example

nextMultiple10	<i>nextMultiple10</i>
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Description

find next higher multiple of 10

Usage

nextMultiple10(x)

Arguments

x integer

Value

integer next higher multiple of 10

Examples

nextMultiple10(1732)
nextMultiple10(1699)

roy

roy

Description

determine the range of years

Usage

```
roy(1)
```

Arguments

- 1 is a list
- character string \$name the person's name
 - integer \$start starting year
 - integer \$end ending year
 - character string \$color background color for the horizontal line
 - list of overlay pictures \$pics, each entry contains
 - character string path name for a picture
 - integer year for placement of left edge of picture

Value

integer vector containing the range of years

Examples

```
roy(example2())
```

stripPlot

stripPlot

Description

iteratively plot each horizontal strip

Usage

```
stripPlot(1, ht, vfactor, ymargin, nameCEX, leftOver)
```

Arguments

l	is a list • character string \$name the person's name • integer \$start starting year • integer \$end ending year • character string \$color background color for the horizontal line • list of overlay pictures \$pics, each entry contains – character string path name for a picture – integer year for placement of left edge of picture
ht	is total height of entire graph
vfactor	is height of a horizontal strip
ymargin	is fraction of maxy to leave as top and bottom margin
nameCEX	control size of font in text() to display names associated with each horizontal strip
leftOver	if TRUE then pictures that do not fit in horizontal strip are placed to left of strip rather than omitted

Value

No return value, called for side effects

timeLineGraphics	<i>timeLineGraphics</i>
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Description

This function is the driver that organizes the production of an html page containing horizontal strips that symbolize events in a person's life.

Usage

```
timeLineGraphics(
  l,
  vfactor = 3,
  abline = TRUE,
  bkgRGB = c(13, 65, 130),
  ablineRGB = c(26, 85, 145),
  pdfWidth = 20,
  pdfHeight = 20,
  extendRight = 50,
  yearsTicks = 10,
  ymargin = 0.05,
  nameCEX = 4,
  main = "Timelines",
```

```

WidthHTML = 850,
imageDir = tempdir(),
leftOver = TRUE
)

```

Arguments

l	is a list • character string \$name the person's name • integer \$start starting year • integer \$end ending year • character string \$color background color for the horizontal line • list of overlay pictures \$pics, each entry contains – character string path name for a picture – integer year for placement of left edge of picture
vfactor	is height of a horizontal strip
abline	is Boolean if TRUE add dates and corresponding vertical ablines
bkgRGB	is ie c(13,65,130) specifying background color
ablineRGB	specifying abline color
pdfWidth	the width parameter to pdf()
pdfHeight	the height parameter to pdf()
extendRight	extends plot to the right to provide room to fit in names
yearsTicks	number of years interval between x axis ticks
ymargin	is fraction of maxy to leave as top and bottom margin
nameCEX	control size of font in text() to display names associated with each horizontal strip
main	main title for the graph
WidthHTML	the width of the figure when imported into html page
imageDir	where to save the image output files
leftOver	if TRUE then pictures that do not fit in horizontal strip are placed to left of strip rather than omitted

Details

the parameters here work fine in general but they were tuned to match the chart in <https://mathigon.org/timeline> since my intention is to generate a consistent display of that chart and my chart above one another a consideration is to have the horizontal strips sufficiently tall so that the images of the in-laid paintings can be seen clearly the default RGB values match the design in <https://mathigon.org/timeline> construct graph whose x axis is years y axis is items to be plotted such as a person's years of birth and death within a broad colored horizontal line overlain with pictures related to that person

Value

No return value, called for side effects

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