

# Package ‘timeLineGraphics’

January 11, 2023

**Version** 1.0

**Date** 2023-01-09

**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](https://barryzee.github.io/timeLineGraphics_manuscript/golden_age.html)>.

**License** GPL (>= 2)

**Encoding** UTF-8

**VignetteBuilder** knitr

**Suggests** knitr, rmarkdown, testthat (>= 3.0.0)

**RoxygenNote** 7.2.2

**Config/testthat/edition** 3

**NeedsCompilation** no

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**Repository** CRAN

**Date/Publication** 2023-01-11 10:20:02 UTC

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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]])))
```

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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)

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example2                    *example2*

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**Description**

generate structured list for mockup example

**Usage**

example2()

**Value**

structured list for mockup example

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nextMultiple10            *nextMultiple10*

---

**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(l)
```

**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

**Value**

integer vector containing the range of years

**Examples**

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

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stripPlot*stripPlot*

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**Description**

iteratively plot each horizontal strip

**Usage**

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

**Arguments**

l	is a list <ul style="list-style-type: none"> <li>• character string \$name the person's name</li> <li>• integer \$start starting year</li> <li>• integer \$end ending year</li> <li>• character string \$color background color for the horizontal line</li> <li>• list of overlay pictures \$pics, each entry contains           <ul style="list-style-type: none"> <li>– character string path name for a picture</li> <li>– integer year for placement of left edge of picture</li> </ul> </li> </ul>
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

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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 <ul style="list-style-type: none"> <li>• character string \$name the person's name</li> <li>• integer \$start starting year</li> <li>• integer \$end ending year</li> <li>• character string \$color background color for the horizontal line</li> <li>• list of overlay pictures \$pics, each entry contains <ul style="list-style-type: none"> <li>– character string path name for a picture</li> <li>– integer year for placement of left edge of picture</li> </ul> </li> </ul>
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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