Package ‘RGraphics’

March 11, 2014

Title     Data and Functions from the book R Graphics, Second Edition
Version   2.0-7
Author    Paul Murrell
Description Data and Functions from the book R Graphics, Second Edition. There is a function to produce each figure in the book, plus several functions, classes, and methods defined in Chapter 8.
Maintainer Paul Murrell <paul@stat.auckland.ac.nz>
Depends   R (>= 2.13.0), datasets, stats, grDevices, graphics, methods, grid, lattice, ggplot2
Suggests agricolae, animation, CircStats, circular, cluster, colorspace, diagram, dichromat, gplots, graph, gridBase, gridExtra, gridSVG, grImport, gWidg-
tes, RGtk2, hexbin, Hmisc, hyperdraw, iGraph, ip lots, ipred, latticeExtra, lattice, lattice, mapdata, maps, maptools, MASS, misc3d, munsell, network, openair, oz, party, pixmap, playwith, plotrix, pmg, png, quantmod, raster, Rcmdr, RColor-
Brewer, rgdal, rggobi, rgl, RGraphics, Rgraphviz, scatterplot3d, soiltextu-
ture, sp, SVGAnnotation, symbols, TeachingDemos, tools, vcd, vcdExtra, venneuler, vrlgen
License   GPL
LazyData yes
NeedsCompilation no
Repository CRAN
Date/Publication 2014-03-11 02:21:34

R topics documented:

face .......................................................... 2
fluoro.predict ........................................... 3
grid.imageFun ........................................... 3
grid.imageGrob ......................................... 4
face

Description

Draws a face, consisting of a rectangle for the border, circles for eyes, and a line for the mouth.

Usage

```r
faceA(x, y, width, height)
faceB(x, y, width, height)
faceC(x, y, width, height)
faceD(x, y, width, height)
faceE(x, y, width, height)
```

Arguments

- `x, y, width, height`
  - Numeric values or unit objects specifying the location and size of the face.

Details

The functions `faceA` and `faceB` are graphics functions to be used for their side effect of producing graphical output. The functions `faceC`, `faceD`, and `faceE` return a grob representing a face (and produce no output).
fluoro.predict  Predicted Surface of Fluorescence

Description
These data give a prediction surface for fluorescence at the thermocline over a region off the coast of South Australia.

Usage
fluoro.predict

Format
A list with elements: x containing longitude at 50 locations; y containing latitude at 50 locations; and z containing a 50 by 50 matrix of surface predictions.

References

grid.imageFun  Draw an Image

Description
Draws an array of nrow by ncol rectangles.

Usage
grid.imageFun(nrow, ncol, cols, byrow=TRUE)

Arguments
nrow, ncol  Number of rows/columns in the image.
cols  Colors for the cells of the image (will be recycled).
byrow  Logical value indicating whether colors should be allocated to cells across rows or down columns.
grid.imageGrob  \hspace{1cm} \textit{Draw an Image}

\textbf{Description}

Creates an imageGrob and then draws it.

\textbf{Usage}

\texttt{grid.imageGrob(...)}

\textbf{Arguments}

\cdots \hspace{1cm} \text{Arguments to be passed to imageGrob.}

\hline

grid.ozFun  \hspace{1cm} \textit{Draw a Map of Australia}

\textbf{Description}

Draws a map of Australia (or part thereof).

\textbf{Usage}

\texttt{grid.ozFun(ozRegion)}

\textbf{Arguments}

\texttt{ozRegion} \hspace{1cm} \text{An object created using the ozRegion function from the oz package.}

\hline

\texttt{hourlySpeed}  \hspace{1cm} \textit{Auckland Wind Data}

\textbf{Description}

These data give measurements of hourly average wind speed based on data from 11 weather stations located around Auckland, New Zealand. There are hourly readings every day for one month (September 2010).

\textbf{Usage}

\texttt{hourlySpeed}
imageGrob

Format

A data frame with columns:

- **Speed**: The wind speed.
- **day**: Day of the year, from 237 to 271.
- **hour**: Hour of the day, from 0 to 23.

References

The data were obtained from the New Zealand National Climate Database (http://cliflo.niwa.co.nz/).

---

**imageGrob**

*Create an Image*

---

Description

Creates an array of `nrow` by `ncol` rectangles.

Usage

```
imageGrob(nrow, ncol, cols, byrow=TRUE,
          name=NULL, gp=NULL, vp=NULL)
```

Arguments

- **nrow, ncol**: Number of rows/columns in the image.
- **cols**: Colors for the cells of the image (will be recycled).
- **byrow**: Logical value indicating whether colors should be allocated to cells across rows or down columns.
- **name**: A character name for the grob.
- **gp**: A `gpar` object containing graphical parameter settings or `NULL`.
- **vp**: A viewport or `NULL`. 
ozGrob  

Create a Map of Australia

**Description**

Creates a map of Australia (or part thereof). `grid.ozGrob` also draws the map.

**Usage**

```r
ozGrob(ozRegion, name=NULL, gp=NULL, vp=NULL)
grid.ozGrob(...)```

**Arguments**

- `ozRegion`  
  An object created using the `ozRegion` function from the `oz` package.

- `name`  
  A character name for the grob.

- `gp`  
  A `gpar` object containing graphical parameter settings or `NULL`.

- `vp`  
  A viewport or `NULL`.

- `...`  
  Arguments to be passed to `ozGrob`.

ozImage  

Create an Image on a Map of Australia

**Description**

Creates a map of Australia (or part thereof), plus an `imageGrob` positioned relative to the map.

**Usage**

```r
ozImage(mapLong, mapLat, imageLong, imageLat, cols)```

**Arguments**

- `mapLong`, `mapLat`  
  Longitude and latitude ranges describing the area of Australia to create.

- `imageLong`, `imageLat`  
  Longitude and latitude ranges describing the area that the image should occupy.

- `cols`  
  Colors for the image cells.
ozKey

Create a Key for an ozImage

Description

Creates a map of Australia with a rectangle bounding a specified region; designed to provide a key for an ozImage.

Usage

ozKey(x, y, width, height, just, mapLong, mapLat)

Arguments

x, y, width, height, just
   The location and size of the key within the current viewport.
mapLong, mapLat
   Longitude and latitude ranges giving the area around which to draw a rectangle.

ozTemp

Temperatures for Australian Cities

Description

These data give average minimum and maximum monthly temperatures for several major cities in Australia. The longitude and latitude for each city is also given.

Usage

data(ozTemp)

Format

A data frame with elements: city names of cities; min and max average minimum and maximum monthly temperatures; long and lat longitudes and latitudes of cities.

Source

http://www.auinfo.com/sydney-climate.html
plot.newclass

A Traditional Graphics Function Template

Description

A template that provides a starting point for writing a new traditional graphics function.

Details

Type `plot.newclass` to see the body of this template.

ribbonLegend

Create a Ribbon Legend

Description

Creates a ribbon legend; a vertical bar broken into several colored cells, with an axis on the right-hand side.

Usage

```r
ribbonLegend(nlevels=NULL, breaks=NULL, cols,
    scale=range(breaks),
    margin=unit(0.5, "line"),
    gp=NULL, vp=NULL, name=NULL)
```

Arguments

- `nlevels`, `breaks`: Number of levels to be represented in the legend, specified either as a number of (equal-sized) levels, or the break points between levels.
- `cols`: The colors to be used for each level.
- `scale`: The range of the scale on the legend.
- `margin`: Space around the edges of the legend.
- `name`: A character name for the grob.
- `gp`: A `gpar` object containing graphical parameter settings or `NULL`.
- `vp`: A viewport or `NULL`.
**splitString**

*Split text into multiple lines*

**Description**

Splits a single string into multiple lines (by inserting line breaks) so that the output will fit within the current viewport.

**Usage**

```r
splitString(text)
```

**Arguments**

- `text` (The string to split.)

---

**splitTextGrob**

*Split text into multiple lines*

**Description**

Splits a single string into multiple lines (by inserting line breaks) so that the output will fit within the current viewport.

**Usage**

```r
splitTextGrob(text, ...)
```

**Arguments**

- `text` (The string to split.)
- `...` (Arguments passed to the `grob()` function.)
**Auckland Wind Data**

**Description**

These data give measurements of wind speed and direction at several weather stations located around Auckland New Zealand. The measurements are daily recordings taken at 9:00am each day spanning a period of approximately two years (September 2008 to September 2010).

**Usage**

wind9am

**Format**

A data frame with columns:

- **Station** A unique identifier for each weather station.
- **Date** A Date-Time for each observation (essentially just the day).
- **Speed** The wind speed.
- **Dir** The wind direction (in degrees).

**References**

The data were obtained from the New Zealand National Climate Database ([http://cliflo.niwa.co.nz/](http://cliflo.niwa.co.nz/)).

---

**X-ray Multi-Mirror space telescope**

**Description**

These data give information on applications for time slots on the European Space Agency’s X-ray Multi-Mirror space telescope.

**Usage**

xmm
Format

A data frame with columns:

- **Category**  The proposal category, which describes what sort of object will be viewed (a label from A to G).
- **Priority**  The assessed priority of the proposal (a label from A to C).
- **Schedule**  Whether the proposal dictates a specific time (fixed) or can be conducted at any time (free).
- **Duration**  The proposed total observation time, in seconds.
- **nObs**  Whether the proposal is for a single observation or for multiple observations.

References

The data were obtained from the XMM web site http://xmm.esac.esa.int/.
Index

*Topic **datasets**
  fluoro.predict, 3  
  hourlySpeed, 4  
  ozTemp, 7  
  wind9am, 10  
  xmm, 10

*Topic **dplot**
  face, 2  
  grid.imageFun, 3  
  grid.imageGrob, 4  
  grid.ozFun, 4  
  imageGrob, 5  
  ozGrob, 6  
  ozImage, 6  
  ozKey, 7  
  ribbonLegend, 8  
  splitString, 9  
  splitTextGrob, 9

*Topic **hplot**
  plot.newclass, 8

face, 2  
faceA(face), 2  
faceB(face), 2  
faceC(face), 2  
faceD(face), 2  
faceE(face), 2  
fluoro.predict, 3  
grid.imageFun, 3  
grid.imageGrob, 4  
grid.ozFun, 4  
grid.ozGrob (ozGrob), 6

hourlySpeed, 4

imageGrob, 5

ozGrob, 6  
ozImage, 6  
ozKey, 7  

ozTemp, 7  
plot.newclass, 8

ribbonLegend, 8

splitString, 9  
splitTextGrob, 9  

wind9am, 10  

xmm, 10