Package 'sumplots'

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Type Package

Title Summary Plots: a collection of summarization plots

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Depends R (>= 2.4.0), moments, colorspace, grid, MASS

Description set of functions for drawing summary plots: abbrvboxplot plots an abbreviated box plot. symdenplot plots a symmetric density (histogram-like plot). momentplot plots a moment plot. distfitplot plots a distribution fitting plot. summaryplot plots all of the above.

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URL http://www.sci.utah.edu/~kpotter/software/sumplots

R topics documented:

abbrvboxplot *Abbreviated Box Plot*

Description

Create an abrreviated box plot from a data set which is structurally similar to the traditional box plot, however the sides of the box have been reduced to facilitate the combination with other summarization type plots.

Usage

```
abbrvboxplot(data, newpage=TRUE, width=NULL, linewidth=1.0, color=rgb(0.15, 0.15
compute.abbrvboxplot(x, width=NULL)
## S3 method for class 'abbrvboxplot'
plot(x, compute=TRUE,...)
```

Arguments

data	A 1D data set.
newpage	Option to create a new plot, or add to an already existing plot if newpage=FALSE.
width	The width of the plot, used to adjust the look of the plot.
linewidth	The thickness of the line to display the plot.
color	The color of the line to display the plot.
show	If set to false, the summary plots will be computed but not plotted.
dims	The dimension of the plot.
compute	Flag to recompute theg plot geometry.
x	The abbrvboxplot object.
...	additional args have no effect

Value

An object of class abbrevboxplo is used to create an abbreviated box plot to visually summarize a data set. The object abbrevboxplot consists of the following components:

data	DO O need thigs?
dims	The spatial dimensions of the plot
newpage	Option to display on a new plot (newplot=TRUE), or within an existing plot (newpage=FALSE)
look	The look of the abbreviated box plot including the line color, width, and endpoint style.

Author(s)

Kristin Potter

References

Visualizing Summary Statistics and Uncertainty. Kristin Potter, Joe Kniss, Richard Riesenfeld, and Chris R. Johnson. In Computer Graphics Forum (Proceedings of Eurovis 2010), Vol. 29, No. 3, pp. 823-831, 2010.

See Also

summaryplot, symdenplot, momentplot, distribplot

Examples

```
library(sumplots)
r=rnorm(500)
e=rexp(500)
abbrvboxplot(r)
```

`distribplot` *Distribution Fitting Plot*

Description

Create a distribution fitting plot from a data set shows a chosen distribution against the current data.

Usage

```
distribplot(data, densfun = "normal", start=NULL, breaks="Sturges", newpage=TRUE
compute.distribplot(x, width=NULL,...)
## S3 method for class 'distribplot'
plot(x, compute=FALSE,...)
```

Arguments

`data`	A 1D data set.
`newpage`	Option to create a new plot, or add to an already existing plot if newpage=FALSE.
`width`	The width of the plot, used to adjust the look of the plot.
`densfun`	The distribution to fit against. Named distributions include: "beta", "cauchy", "chi-squared", "exponential", "f", "gamma", "geometric", "log-normal", "log-normal", "logistic", "negative binomial", "normal", "Poisson", "t" and "weibull".
`start`	A named list giving the parameters to be optimized with initial values.
`breaks`	The histogram breaks.
`show`	If set to false, the summary plots will be computed but not plotted.
`dims`	The dimension of the plot.
`compute`	Flag to recompute theg plot geometry.
`x`	The distribplot object.
`...`	additional args have no effect

Value

An object of class `distribplot` is used to create a distribution plot which shows a chosen distribution plotted against the current data. The object `distribplot` consists of the following components:

`data`	DO O need thigs?
`dims`	The spatial dimensions of the plot
`newpage`	Option to display on a new plot (newplot=TRUE), or within an existing plot (newpage=FALSE)

Author(s)

Kristin Potter

References

Visualizing Summary Statistics and Uncertainty. Kristin Potter, Joe Kniss, Richard Riesenfeld, and Chris R. Johnson. In Computer Graphics Forum (Proceedings of Eurovis 2010), Vol. 29, No. 3, pp. 823-831, 2010.

See Also

fitdistr summaryplot, abbrvboxplot, symdenplot, momentplot

Examples

```
library(sumplots)
r=rnorm(500)
e = rexp(500)
distribplot(r)
```

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momentplot *Moment Plot*

Description

Create a moment plot from a data set which computes the first 5 moments of a data set and displays the moments as a collection of glyphs.

Usage

```
momentplot(data, newpage=TRUE, width=NULL, show=TRUE, dims=NULL,...)
compute.momentplot(x, width=NULL)
## S3 method for class 'momentplot'
plot(x, compute=TRUE, ...)
```

Arguments

data	A 1D data set.
newpage	Option to create a new plot, or add to an already existing plot if newpage=FALSE.
width	The width of the plot, used to adjust the look of the plot.
show	If set to false, the summary plots will be computed but not plotted.
dims	The dimension of the plot.
compute	Flag to recompute theg plot geometry.
x	The momentplot object.
...	additional args have no effect

Value

An object of class `momentplot` is used to create a moment plot to display the first five moments of a data set. The object `momentplot` consists of the following components:

`data`	DO O need thigs?
`dims`	The spatial dimensions of the plot
`newpage`	Option to display on a new plot (newplot=TRUE), or within an existing plot (newpage=FALSE)

Author(s)

Kristin Potter

References

Visualizing Summary Statistics and Uncertainty. Kristin Potter, Joe Kniss, Richard Riesenfeld, and Chris R. Johnson. In Computer Graphics Forum (Proceedings of Eurovis 2010), Vol. 29, No. 3, pp. 823-831, 2010.

See Also

`summaryplot`, `abbrvboxplot`, `symdenplot`, `distribplot`

Examples

```
library(sumplots)
r=rnorm(500)
e = rexp(500)
momentplot(r)
```

`summaryplot` *Summary Plots*

Description

Create a summary plot which consists of an abbreviated box plot, a symmetric density plot, a moment plot and a distribution plot.

Usage

```
summaryplot(data, newpage=TRUE, width=NULL, show=TRUE,...)
## S3 method for class 'summaryplot'
plot(x, compute=TRUE,...)
```

Arguments

data	A 1D data set.
newpage	Option to create a new plot, or add to an already existing plot if newpage=FALSE.
width	The width of the plot, used to adjust the look of the plot.
show	If set to false, the summary plots will be computed but not plotted.
x	The summary plot object.
compute	Flag to recompute theg plot geometry.
...	additional args have no effect

Value

An object of class summaryplot creates a collection of summary-type plots. The object summaryplot consists of the following components:

abbrvboxplot	The abbreviated box plot object.
showabbrv	Option to show the abbreviated box plot.
symdenplot	The symmetric density plot object.
showden	Option to show the density plot.
momentplot	The moment plot.
showmp	Option to show the moment plot.
distribplot	The distribution fitting plot.
showdfp	Option to show the distribution fit plot.
dims	The spatial dimensions of the plot.
newpage	Option to display on a new plot (newplot=TRUE), or within an existing plot (newpage=FALSE).

Author(s)

Kristin Potter

References

Visualizing Summary Statistics and Uncertainty. Kristin Potter, Joe Kniss, Richard Riesenfeld, and Chris R. Johnson. In Computer Graphics Forum (Proceedings of Eurovis 2010), Vol. 29, No. 3, pp. 823-831, 2010.

See Also

abbrvboxplot, symdenplot, momentplot, distribplot

Examples

```
library(sumplots)
r=rnorm(500)
e = rexp(500)
summaryplot(r)
```

symdenplot *Symmetric Density Plot*

Description

Create a symmetric density plot from a data set which estimates the density of a data set and plots it across the y axis using quads and a colormap.

Usage

```
symdenplot(data, newpage=TRUE, width=NULL,outlinecolor="gray", linewidth=1.0, br
compute.symdenplot(x, width=NULL,...)
## S3 method for class 'symdenplot'
plot(x, compute=TRUE, ...)
```

Arguments

data	A 1D data set.
newpage	Option to create a new plot, or add to an already existing plot if newpage=FALSE.
width	The width of the plot, used to adjust the look of the plot.
outlinecolor	The color of the outline of the plot.
linewidth	The thickness of the line to display the plot.
breaks	The method to divide up the density estimator (from histgraphics). Can be: a vector giving the breakpoints between histogram cells, a single number giving the number of cells for the histogram, a character string naming an algorithm to compute the number of cells, or a function to compute the number of cells.
colormap	The colormap for the density quads.
show	If set to false, the summary plots will be computed but not plotted.
dims	The dimension of the plot.
compute	Flag to recompute theg plot geometry.
x	The symdenplot object.
...	additional args have no effect

Value

An object of class symdenplot is used to create a symmetric density plot to display the density of a data set. The object symdenplot consists of the following components:

data	DO O need thigs?
dims	The spatial dimensions of the plot
newpage	Option to display on a new plot (newplot=TRUE), or within an existing plot (newpage=FALSE)
look	The look of the abbreviated box plot including the line color, width, and end-point style.
breaks	The breaks as defined above.
colormap	The colormap for the density quads.

Author(s)

Kristin Potter

References

Visualizing Summary Statistics and Uncertainty. Kristin Potter, Joe Kniss, Richard Riesenfeld, and Chris R. Johnson. In Computer Graphics Forum (Proceedings of Eurovis 2010), Vol. 29, No. 3, pp. 823-831, 2010.

See Also

summaryplot, abbrvboxplot, momentplot, distribplot

Examples

```
library(sumplots)
r=rnorm(500)
e = rexp(500)
symdenplot(r)
```

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