Package 'violinmplot'

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Type Package

Depends lattice

Title Combination of violin plot with mean and standard deviation.

Version 0.2.1

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Description A lattice violin-plot is overlayed with the arithmetic
mean and standard deviation.

License GPL-2

LazyLoad yes

Repository CRAN

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NeedsCompilation no

R topics documented:

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violinmplot-package   *Combined violin, mean and standard deviation plots.*

Description

Combine violin plots with information about arithmetic mean and standard deviation.

Details

1

Package:	violinmplot
Type:	Package
Version:	0.2
Date:	2010-09-17
License:	GPL-2
LazyLoad:	yes

The package can be used to generate violin plots with overlayed arithmetic mean and standard deviation using the function violinmplot. See examples below.

Author(s)

Raphael W. Majeed

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References

The package was developed for a 2009 German national survey of usability in healthcare IT. http://www.usabil-it.de/2009/ (in German)

See Also

lattice

Examples

```
library(lattice)
library(violinmplot)

## Sample data frame
x <- c(1,1,1,2,2,3, 1,2,2,3,3,3)
g <- c(1,1,1,1,1,1, 2,2,2,2,2,2)
f <- data.frame("Daten"=x,"Gruppe"=g)

## Display a horizontal violinmplot
violinmplot( Gruppe ~ Daten, data=f )

## Same plot displayed vertically
violinmplot( Daten ~ Gruppe, data=f, horizontal=FALSE)

## Display the plot again using functions from the package lattice
bwplot( Daten ~ Gruppe, data=f, horizontal=FALSE, panel=panel.violinm)

## Mean and standard deviation can be displayed without violins
bwplot( Daten ~ Gruppe, data=f, horizontal=FALSE, panel=panel.meansdplot)
```

| panel.meansdplot | *Lattice panel function to plot arithmetic mean and standard deviation.* |

Description

This function plots arithmetic mean and standard deviation for a given data frame. The arithmetic mean is displayed as a small rectangle with lines with the length of standard deviation protruding from its sides.

Usage

```
panel.meansdplot(x, y, mean.pch = 15, mean.cex = 1, mean.col = "blue", ...)
```

Arguments

x	data
y	data
mean.pch	character to plot for the arithmetic mean
mean.cex	
mean.col	color for the arithmetic mean.
...	additional parameters passed to further functions called.

Details

This lattice panel functions is used to plot the arithmetic mean and the standard deviation. It can be used with any lattice function allowing the specification of a panel function.

Author(s)

Raphael W. Majeed

See Also

violinmplot

| panel.violinm | *Lattice panel function to combine violin plots with arithmetic mean and standard deviation.* |

Description

This function combines violin plots with the corresponding arithmetic mean and standard deviation values in a lattice panel function. The panel function can be used with latice functions like bwplot.

Usage

```
panel.violinm(x, y, horizontal = TRUE, grid = TRUE,
mean.col = "blue", violin.col = "transparent", ...)
```

Arguments

x

y

horizontal   Whether to display plots horizontally or vertically.

grid   Whether to display grid lines cutting the violins.

mean.col   color for the arithmetic mean.

violin.col   violin fill color

...   additional parameters to pass along called functions.

See Also

violinmplot, panel.meansdplot

| violinmplot | *Combined violin plot with arithmetic mean and standard deviation.* |

Description

This function combines a violin plot from the package lattice with values for the arithmetic mean and standard deviation.

Usage

```
violinmplot(x, data, ...)
```

Arguments

x	a formula describing the plot, typically of the form y ~ x.
data	the data frame containing values for any variables in the formula provided as argument x.
...	further arguments which are passed on to other functions used by this package. Possible arguments are as follows:

    horizontal Whether to display the plots horizontally. Defaults to TRUE.

    grid Whether to display grid lines. Defaults to TRUE.

    col.mean color for the arithmetic mean. Defaults to "blue"

    col.violin fill color for the violin plot. Defaults to "transparent".

Value

An object of calss "trellis". The update.trellis method can be used too update components of the object and the print.trellis method (usually called by default) will plot it on an appropriate plotting device.

Author(s)

Raphael W. Majeed

References

The package was developed for a 2009 German national survey of usability in healthcare IT. http://www.usabil-it.de/2009/ (in German)

See Also

Lattice

Examples

```
library(violinmplot)

## Sample data frame
x <- c(1,1,1,2,2,3, 1,2,2,3,3,3)
g <- c(1,1,1,1,1,1, 2,2,2,2,2,2)
f <- data.frame("Daten"=x,"Gruppe"=g)

## Display a horizontal violinmplot
violinmplot( Gruppe ~ Daten, data=f )

## Same plot displayed vertically
violinmplot( Daten ~ Gruppe, data=f, horizontal=FALSE)
```

Index