Package ‘scagnostics’

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Title Compute scagnostics - scatterplot diagnostics
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Depends rJava
Description Calculates graph theoretic scagnostics. Scagnostics describe various measures of interest for pairs of variables, based on their appearance on a scatterplot. They are useful tool for discovering interesting or unusual scatterplots from a scatterplot matrix, without having to look at every individual plot.
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R topics documented:

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scagnostics

Calculcate scagnostics for pairs of variables

Description

Scagnostics (scatterplot diagnostics) summarize potentially interesting patterns in 2d scatterplots.
Usage

```
scagnostics(x, ...)  
scagnosticsOutliers(scagnostics)  
scagnosticsExemplars(scagnostics)  
scagnosticsGrid(scagnostics)
```

Arguments

- **x**: object to calculate scagnostics on: a vector, a matrix or a data.frame
- **...**: ...
- **scagnostics**: objects returned from the `scagnostics` function

Value

`scagnostics` returns a vector (for a pair) or a matrix consisting of scagnostics (rows) by variable pairs (columns).

`scagnostics.outliers` and `scagnostics.exemplars` return a logical vector.

`scagnostics.grid` returns a data frame with columns `x` and `y` which as a pair define the index of variables corresponding to the entries in the scagnostics matrix. Hence it has as many rows as there are columns in the scagnostics matrix and each row defines one pair of variables.

Author(s)

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References


https://www.cs.uic.edu/~wilkinson/

Examples

```
# testing various forms
scagnostics(1:10, 1:10)
scagnostics(rnorm(100), rnorm(100))
scagnostics(as.matrix(mtcars))

# more real use on a dataset
s <- scagnostics(mtcars)

# look at outliers
o <- scagnosticsOutliers(s)
o[o]
```
# one outlier, let's plot it

g <- scagnosticsGrid(s)
go <- g[o,]
plot(mtcars[[go$x]], mtcars[[go$y]], pch=19,
    xlab=names(mtcars)[go$x], ylab=names(mtcars)[go$y])

# find and plot exemplars

e <- scagnosticsExemplars(s)
e[e]
ge <- g[e,]
par(mfrow = c(2,2))
for (i in 1:dim(ge)[1])
    plot(mtcars[[ge$x[i]]], mtcars[[ge$y[i]]], pch=19,
        xlab=names(mtcars)[ge$x[i]], ylab=names(mtcars)[ge$y[i]])
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