Package 'histmdl'

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Type Package

Title A Most Informative Histogram-Like Model

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Description Using the MDL principle, it is possible to estimate parameters for a histogram-like model. The package contains the implementation of such an estimation method.

Imports graphics

License GPL (>= 2)

ByteCompile yes

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R topics documented:

`histmdl` *Most Informative Histograms*

Description

Compute an estimate of the maximum likelihood parameter of a histogram-like model. If `plot=TRUE`, the resulting object of class `"histogram"` is plotted according to `plot.histogram`, before it is returned.

Usage

```
histmdl(x, model = "Witteveen", gain = 0, precision = 0, support = 4,
        plot = TRUE, main = paste("Histogram of", xname),
        xlab = xname, ylab = "Density", ...)
```

Arguments

x	a vector of values for which the histogram is desired.
model	a character string naming the desired histogram-like model. Currently, only "Witteveen" is implemented.
gain	minimum required complexity reduction before an additional interval is accepted.
precision	a value giving the minimum resolution of the data. When computing complexities, boundary values are blurred by this amount to mitigate the effects of, for example, rounding.
support	minimum number of data points desired per interval.
plot	logical. If TRUE (default), a histogram is plotted, otherwise a list of breaks and densities is returned.
main, xlab, ylab	these arguments to title have useful defaults here.
...	further arguments and graphical parameters passed to plot.histogram and thence to title and axis (if plot=TRUE).

Value

an object of class "histogram" which is a list of components:

breaks	the boundaries of intervals. Note that consecutive values are not the same as the boundaries of the intervals that, recursively, define the model instance.
density	densities of the data inside the model-interval that a section is part of.
xname	a character string with the actual x argument name.

Author(s)

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See Also

hist

Examples

```
set.seed (28011988)

x <- c (rnorm (1000, -6), rnorm (1000, 6))
histmdl (x, gain=2, col="peru")
hist (x, freq=FALSE, add=TRUE, col="#80808080")
```

```
x <- c (runif (50), runif (50, max=3))
histmdl (x, col="peru", ylim=0:1)
hist (x, freq=FALSE, add=TRUE, col="#80808080")
```

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