Description

It divides a numerical variable x in classes, and returns for each class the central value.
Internal function, generally not to be called by the user.

Usage

`cutnumeric(x, n = 1000)`
Arguments

- **x**: numeric vector
- **n**: number of classes

Details

It calls the `cut` function, and then converts factor classes in numeric classes, returning for each class its central value.

Value

It returns a numerical vector, in which values are the central points of classes obtained by the function `cut`.

Note

This function is called from the function `overlap`.

Author(s)

Massimiliano Pastore

See Also

cut

Examples

```r
x <- rnorm(50)
cutnumeric(x, 5)
```

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### final.plot

**Final plot**

Graphical representation of estimated densities and overlapping area.

Usage

```r
final.plot(DD, OV)
```

Arguments

- **DD**: Data frame obtained by function `overlap`
- **OV**: Vector of overlapping areas obtained by `overlap`
Details

It requires the function `xyplot` of the package `lattice`.

Author(s)

Massimiliano Pastore

See Also

`xyplot`

Examples

```r
set.seed(20150605)
x <- list(x1=rnorm(100), x2=rt(50,8), x3=rchisq(80,2))
out <- overlap(x)
final.plot(out$DD, out$DV)
```

Description

It gives the overlapped estimated area of two or more empirical distributions.

Usage

```r
overlap(x, nbins = 1000, plot = FALSE, partial.plot = FALSE)
```

Arguments

- `x`: list of distributions to be compared; each distribution is an element of the list
- `nbins`: number of equally spaced points at which the overlapping density is evaluated
- `plot`: logical, if TRUE, final plot of estimated densities and overlapped areas is produced
- `partial.plot`: logical, if TRUE, partial paired distributions are plotted

Details

If the list `x` contains more than two elements (i.e. more than two distributions) it computes all overlapping between all paired distributions. Partial plots refer to these coupled distributions.

If `plot=TRUE`, all overlapped areas are plotted. It requires `lattice`.
Value

It returns a list containing the following components:

DD Data frame with information used for computing overlapping, containing the following variables: x, coordinates of the points where the density is estimated; y, density; j, index of the distribution in the list x; xclass, class of x; xnum, numerical class of x (obtained by cutnumeric); dominance, indicates which distribution has the highest density; w, flag 0-1 for normalizing area; k, label indicating which distributions are compared

OV Estimates of overlapped areas relative to each couple of distributions.

Note

Call functions cutnumeric e final.plot.

Author(s)

Massimiliano Pastore

Examples

set.seed(20150605)
x <- list(x1=rnorm(100),X2=rt(50,8),X3=rchisq(50,2))
out <- overlap(x,plot=TRUE)
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