Package ‘MedOr’

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Title Median Ordering Statistical R package
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Depends R (>= 2.15.0)
Description This package contains the functions used to perform some confidence statistics based in population median.
License GPL (>= 3)
Repository CRAN

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conf.interval  Confidence Interval for Population Median

Description

Evaluates a confidence interval for population median.
Usage

conf.interval(x, alpha=0.95, verbose=TRUE)

Arguments

x                   observed vector/sample.
alpha               confidence level.
verbose             print time elapsed (TRUE).

Details

Evaluates a confidence interval for population median based in the order statistics. It is considered the distribution of order statistics to evaluate the confidence level of the interval. It is not assumed any asymptotic distribution.

Value

A list with components:

cint1               A vector with the confidence interval limits, given by the biggest confidence level lower than or equal to alpha.
cint2               A vector with the confidence interval limits, given by the lowest confidence level bigger than or equal to alpha. If there is not interval with confidence level bigger than or equal to alpha, then cint2 is NULL.
alpha               Desired confidence level.
run.time            Time spent.
call                command evaluated.

Examples

x <- rnorm(10,0,1)
conf.interval(x)

conf.statement

Confidence Statement for Ordered Population Median

Description

Evaluates the Confidence Statement for Ordered Population Median.

Usage

conf.statement(data, verbose=TRUE)
Arguments

data is a list of observed vectors/samples.
verbose print the results (TRUE).

Details

The confidence statement is evaluated for the population median considering: The population median of the group 1 is lower than the population median of the group 2, and this is lower than the population median of the group 3, and so... That is, M1 < M2 < ... < Mk, where Mj is the population median of the group j.

The group j is the j-th vector in the data (a list object).

Value

A list with components:

call command evaluated.
statement.level the confidence statement level.
stat.order.i the numbers of the order statistics of i-th group.
conf.statement.i the values of the order statistics of i-th group.
total.groups the total number of groups.
run.time Time spent.

Examples

set.seed(1234)
# Statement: M1 < M2 < M3, where Mj is the population median of the group j.
data <- NULL
data$x1 <- rnorm(10,0,1)
data$x2 <- rnorm(10,1,1)
data$x3 <- rnorm(10,2,1)
conf.statement(data)

# Statement: M2 < M3 < M1, where Mj is the population median of the group j.
data2 <- NULL
data2$g1 <- data$x2
$data2$g2 <- data$x3
data2$g3 <- data$x1
conf.statement(data2)
Data set Gleason 7

Description

Pre-operative Gleason score provide valuable prognosis in cases of prostate cancer, in general. However, for patient’s Gleason 7 it does not. This is because Gleason 7 tumors display great morphological heterogeneity among regions. The data set have the microarray data of gene RPS28 for recurrent (R) and non-recurrent (NR) Gleason 7 prostate cancer patients.

Value

The data variables are:

- **R**: Recurrent cases.
- **NR**: Non-recurrent cases.
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