

# 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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**NeedsCompilation** no

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conf.interval	<i>Confidence Interval for Population Median</i>
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## 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)
```

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conf.statement

*Confidence Statement for Ordered Population Median*

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**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,  $M_1 < M_2 < \dots < M_k$ , where  $M_j$  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:  $M_1 < M_2 < M_3$ , where  $M_j$  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:  $M_2 < M_3 < M_1$ , where  $M_j$  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)
```

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gleason7

*Data set Gleason 7*

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**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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