Package ‘onewaytests’

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Type Package

Title One Way Independent Groups Design

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Imports stats

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Description

Two or more samples in one-way independent groups design are compared via different tests.

License GPL (>= 2)

NeedsCompilation no

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Description

Two or more samples in one-way independent groups design are compared via different tests.

Details

Package: onewaytests
Type: Package
Version: 1.0
Date: 2015-08-24
License: GPL (>=2)

ag.test

A Function to Perform Alexander-Govern Test

Description

ag.test performs Alexander-Govern test.

Usage

ag.test(y, group)

Arguments

y a numeric vector of data values.

group a vector or factor object giving the group for the corresponding elements of y.

Value

Returns a list containing following elements:

statistic the Alexander-Govern statistic.

df the degrees of freedom of the approximate chi-squared distribution of the test statistic.

p.value the p-value of the test.
Author(s)
Osman Dag, Anil Dolgun, N. Meric Konar

References

Examples

```r
ag.test(iris$Sepal.Width, iris$Species)
```

### aov.test

*A Function to Perform One-Way Analysis of Variance.*

#### Description

*aov.test* performs one-way analysis of variance.

#### Usage

```r
aov.test(y, group)
```

#### Arguments

- `y` a numeric vector of data values.
- `group` a vector or factor object giving the group for the corresponding elements of `y`.

#### Value

Returns a list containing following elements:

- `statistic` the analysis of variance test statistic.
- `df1` the first degrees of freedom of the approximate F distribution of the test statistic.
- `df2` the second degrees of freedom of the approximate F distribution of the test statistic.
- `p.value` the p-value of the test.

Author(s)
Osman Dag, Anil Dolgun, N. Meric Konar
References


Examples

```r
aov.test(iris$Sepal.Length, iris$Species)
```

**Description**

`bf.test` performs Brown-Forsythe test.

**Usage**

```r
bf.test(y, group)
```

**Arguments**

- `y` a numeric vector of data values.
- `group` a vector or factor object giving the group for the corresponding elements of `y`.

**Value**

Returns a list containing following elements:

- `statistic` the Brown-Forsythe test statistic.
- `df1` the first degrees of freedom of the approximate F distribution of the test statistic.
- `df2` the second degrees of freedom of the approximate F distribution of the test statistic.
- `p.value` the p-value of the test.

**Author(s)**

Osman Dag, Anil Dolgun, N. Meric Konar

**References**


**Examples**

```r
bf.test(iris$Sepal.Width, iris$Species)

y = rnorm(10, 5, 2)
group = c(rep(1, times = 3), rep("two", times = 3), rep(8, times = 4))
bf.test(y, group)
```

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**Description**

`james.test` performs James’s second-order test.

**Usage**

```r
james.test(y, group, alpha = 0.05)
```

**Arguments**

- **y**
  - a numeric vector of data values.
- **group**
  - a vector or factor object giving the group for the corresponding elements of `y`.
- **alpha**
  - a significance level. Defaults `alpha = 0.05`.

**Value**

Returns a list containing following elements:

- **statistic**
  - the James’s Second-Order Test statistic.
- **criticalvalue**
  - the critical value of the James’s Second-Order Test statistic.
- **result**
  - the result of the test.

**Author(s)**

Anil Dolgun, Osman Dag, N. Meric Konar

**References**

Examples

```r
james.test(iris$Sepal.Width, iris$Species, alpha=0.05)

y=rnorm(10,5,2)
group=c(rep(1, times=3), rep("two", times=3), rep(8, times=4))
james.test(y, group, alpha=0.10)
```

### Description

`kw.test` performs Kruskal-Wallis rank sum test.

### Usage

```r
kw.test(y, group)
```

### Arguments

- `y` : A numeric vector of data values.
- `group` : A vector or factor object giving the group for the corresponding elements of `y`.

### Value

Returns a list containing following elements:

- `statistic` : The Kruskal-Wallis rank sum statistic.
- `df` : The degrees of freedom of the approximate chi-squared distribution of the test statistic.
- `p.value` : The p-value of the test.

### Author(s)

Anil Dolgun, Osman Dag, N. Meric Konar

### References


### Examples

```r
kw.test(iris$Sepal.Length, iris$Species)
```
mood.test

A Function to Perform Mood’s Median Test

Description

mood.test performs Mood’s median test.

Usage

mood.test(y, group)

Arguments

y
  a numeric vector of data values.

group
  a vector or factor object giving the group for the corresponding elements of y.

Value

Returns a list containing following elements:

statistic    the Mood’s Median test statistic.
df           the degrees of freedom of the approximate chi-squared distribution of the test statistic.
p.value      the p-value of the test.

Author(s)

Anil Dolgun, Osman Dag, N. Meric Konar

References


Examples

mood.test(iris$Sepal.Width, iris$Species)
Description

welch.test performs Welch’s Heteroscedastic F test and Welch’s Heteroscedastic F Test with trimmed mean and winsorized variance.

Usage

welch.test(y, group, rate = 0)

Arguments

y a numeric vector of data values.
group a vector or factor object giving the group for the corresponding elements of y.
rate the rate of observations trimmed and winsorized from each tail of the distribution. If rate = 0, it performs Welch’s Heteroscedastic F test. Otherwise, Welch’s Heteroscedastic F Test with trimmed mean and winsorized variance is performed. Default is set to rate = 0.

Value

Returns a list containing following elements:

statistic the corresponding test statistic.
df1 the first degrees of freedom of the approximate F distribution of the test statistic.
df2 the second degrees of freedom of the approximate F distribution of the test statistic.
p.value the p-value of the test.

Author(s)

Osman Dag, Anil Dolgun, N. Meric Konar

References

Examples

welch.test(iris$Sepal.Length, iris$Species, rate=0.1)

y=rnorm(10, 5, 2)
group=c(rep(1, times=3), rep("two", times=3), rep(8, times=4))
welch.test(y, group)
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