

Package ‘mvsf’

February 14, 2012

Type Package

Title Shapiro-Francia Multivariate Normality Test

Version 1.0

Date 2009-08-31

Author David Delmail

Maintainer David Delmail <david.delmail@wanadoo.fr>

Description Generalization of the Shapiro-Francia test for multivariate variables.

License GPL (>= 2)

Depends nortest,mvnormtest

Repository CRAN

Date/Publication 2009-09-06 17:20:18

R topics documented:

| | |
|----------------|----------|
| mvsf | 1 |
| Index | 3 |

| | |
|------|--|
| mvsf | <i>Shapiro-Francia Multivariate Normality Test</i> |
|------|--|

Description

An extension of the Shapiro-Wilk multivariate normality test developed by Slawomir Jarek ([mshapiro.test](#)) to the Shapiro-Francia normality test.

Usage

mvsf(m)

Arguments

`m` a numeric matrix of data values, the number of which must be for each sample between 5 and 5000.

Value

A list with class "htest" containing the following components:

`statistic` the value of the multivariate Shapiro-Francia statistic.
`p.value` the p-value for the test.
`method` the character string "Generalized Shapiro-Francia test for Multivariate Normality".
`data.name` a character string giving the name of the data.

Author(s)

David Delmail (<david.delmail@wanadoo.fr>)

References

- Domanski C. (1998). Wlasnosci testu wielowymiarowej normalnosci Shapiro-Wilka i jego zastosowanie. Cracow University of Economics Rector's Lectures, 37.
- Jarek S. (2009). Shapiro-Wilk Multivariate Normality Test. Package mvnormtest. <http://cran.r-project.org/web/packages/mvnormtest/>
- Royston P. (1982). An extension of Shapiro and Wilk's test for normality to large samples. Applied Statistics, 31: 115-124.
- Royston P. (1993). A pocket-calculator algorithm for the Shapiro-Francia test for non-normality: an application to medicine. Statistics in Medicine, 12: 181-184.
- Shapiro S.S., Francia R.S. (1972). An approximate analysis of variance test for normality. Journal of the American Statistical Association, 67: 215-216.
- Thode Jr. H.C. (2002). Testing for Normality. Marcel Dekker (Ed.), New York.

See Also

[sf.test](#) for univariate samples; [shapiro.test](#), [ad.test](#), [cvm.test](#), [lillie.test](#), [pearson.test](#) for performing further univariate tests for normality; [mshapiro.test](#) for performing another multivariate test for normality; [qqnorm](#) for producing a normal quantile-quantile plot.

Examples

```
library(mvsf)
data(EuStockMarkets)

X <- t(EuStockMarkets[15:29,1:4])
mvsf(X)
```

Index

ad.test, 2

cvm.test, 2

lillie.test, 2

mshapiro.test, 1, 2

mvsf, 1

pearson.test, 2

qqnorm, 2

sf.test, 2

shapiro.test, 2