Package ‘mvShapiroTest’

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Type    Package
Title   Generalized Shapiro-Wilk test for multivariate normality
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Author Elizabeth Gonzalez-Estrada, Jose A. Villasenor-Alva
Maintainer Elizabeth Gonzalez Estrada <egonzalez@colpos.mx>
Description This package implements the generalization of the Shapiro-Wilk test for multivariate normality proposed by Villasenor-Alva and Gonzalez-Estrada (2009).
License GPL (>= 3)
Depends stats, datasets
LazyLoad yes
NeedsCompilation no
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mvShapiro.Test               Generalized Shapiro-Wilk test for multivariate normality

Description

Given a d-dimensional random sample of size n, this function computes the test statistic and p-value of the Shapiro-Wilk test for multivariate normality proposed by Villasenor-Alva and Gonzalez-Estrada (2009).
Usage

mvShapiro.Test(X)

Arguments

x Numeric data matrix with d columns (vector dimension) and n rows (sample size).

Details

n must be larger than d.

When d=1, mvShapiro.Test(X) produces the same results as shapiro.test(X).

Value

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

statistic the value of the generalized Shapiro-Wilk statistic for testing multivariate normality.
p.value the p-value of the test.
method the character string "Generalized Shapiro-Wilk test for multivariate normality".
data.name a character string giving the name of the data set.

Author(s)

Elizabeth Gonzalez-Estrada <egonzalez@colpos.mx>, Jose A. Villasenor-Alva

References


See Also

shapiro.test

Examples

X <- matrix(rnorm(40),ncol=2)  # Generating a two dimensional random sample of size 20
mvShapiro.Test(X)  # Testing multivariate normality on X

#-----------------------------------------------------------------------------------
# iris.virginica contains a set of measurements corresponding to
# Iris virginica of the famous iris dataset.

iris.virginica <- as.matrix(iris[iris$Species == "virginica",1:4],ncol=4)
mvShapiro.Test(iris.virginica)  # Testing multivariate normality on iris.virginica
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