Package 'Johnson'

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Type Package

Title Johnson Transformation

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Description RE.Johnson performs the Johnson Transformation to increase the normality.

License GPL (>= 2)

LazyLoad yes

NeedsCompilation no

Repository CRAN

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R topics documented:

`Johnson-package` *Johnson transformation*

Description

Johnson transforms to normality using the Z family of distributions. It performs the Johnson Transformation based on the method of the percentiles. It includes the Anderson-Darling Test.

Details

The values of the Johnson Transformation Function can be obtained

Package:	Johnson
Type:	Package
Version:	1.3
Date:	2012-08-06
License:	What license is it under?
LazyLoad:	yes

Author(s)

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References

Chou, Youn Min; Polansky, A. M. M. R. L. (1998), "Transforming non normal data to normality in statistical process control", Journal of Quality Technology 30, 2, April.

Johnson, N. L. (1949), "Systems of Frequency Curves Generated by Methods of Translation". URL: http://www.jstor.org/stable/2332539

Slifker, J. F. & Shapiro, S. S. (1980), "The johnson system: selection and parameter estimation", Technometrics 22(2).

Trujillo-Ortiz, A., R. H.-W. K. B.-R. & Castro-Perez., A.(2007), "Andartest:anderson-darling test for assessing normality of a sample data.". URL: http://www.mathworks.com/matlabcentral/fileexchange/loadFile.do?objectI

See Also

<pkg>

Examples

```
# transforming to normality a random sample with beta distribution
x <- rbeta(30,2,3)
y <- RE.Johnson(x); print(y)

# working with the transformed variable
x <- runif(100)
y <- RE.Johnson(x) $ transformed; print(y)

# working with the p-values
x <- rgamma(100,2,1)
y <- RE.Johnson(x)$p; print(y)
```

RE.ADT *Anderson-Darling test*

Description

RE.ADT performs the Anderson-Darling test according to Trujillo-Ortiz(2007)

Usage

```
RE.ADT(x)
```

Arguments

x	x vector of observations

Details

For only work with p-values see the second example

Value

The object returned consists of the following items: p-value the resulting p-value of the transformation

Note

The function RE.ADT use the traditional algorithm while ADGofTest package is based on the Marsaglia approach.

Author(s)

Edgar Santos Fernandez

References

Trujillo-Ortiz, A., R. H.-W. K. B.-R. & Castro-Perez., A.(2007), "Andartest:anderson-darling test for assessing normality of a sample data.". URL: http://www.mathworks.com/matlabcentral/fileexchange/loadFile.do?objectI

See Also

<pkg>

Examples

```
# performing the AD test for a random sample
x <- rnorm(100,10,2)
y <- RE.ADT(x); print(y)

#working with the p-value
x <- runif(100)
y <- RE.ADT(x) $p; print(y)
```

RE.Johnson *Johnson transformation*

Description

Johnson transform to normality using the Z family of distributions. Performs the Johnson Transformation based on the method of the percentiles. Returns the the transformed variable, the function used and de p-value of the transformation.

Usage

```
RE.Johnson(x)
```

Arguments

x	x vector of observations

Details

The values of the Johnson Transformation Function can be obtained

Value

The objects returned consists of the following items: function type of function used in transformation (SB,SL or SU) p-value the resulting p-value of the transformation transformed the data vector of transformed variable f.gamma, f.lambda, f.epsilon and f.eta the values of the variables in the transformation function.

Note

Note that the transformed variable often present a good fit to the normal distribution.

Author(s)

Edgar Santos Fernandez

References

Chou, Youn Min; Polansky, A. M. M. R. L. (1998), "Transforming non normal data to normality in statistical process control", Journal of Quality Technology 30, 2, April.

Johnson, N. L. (1949), "Systems of Frequency Curves Generated by Methods of Translation". URL: http://www.jstor.org/stable/2332539

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See Also

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Examples

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