Package ‘mro’

October 13, 2022

Type Package
Title Multiple Correlation
Version 0.1.1
Author Abirami S
Maintainer Abirami S <abirami89@gmail.com>
Description Computes multiple correlation coefficient when the data matrix is given and tests its significance.
Depends R (>= 3.1.0), MASS, matrixcalc
License GPL-2
Encoding UTF-8
LazyData true
RoxygenNote 6.0.1
NeedsCompilation no
Repository CRAN
Date/Publication 2017-04-16 16:24:55 UTC

R topics documented:

mcr .......................................................... 1
mcr.test .................................................. 3

Index 4

mcr Multiple Correlation

Description

Computes Multiple Correlation Coefficient between one variable and a set of variables

1
Usage

mcr(dda, ld, rd, rawdata = T)

Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>dda</td>
<td>Data</td>
</tr>
<tr>
<td>ld</td>
<td>Dependent Variable</td>
</tr>
<tr>
<td>rd</td>
<td>vector of independent variables</td>
</tr>
<tr>
<td>rawdata</td>
<td>a boolean variable taking F if the input is a correlation matrix T if it is data matrix</td>
</tr>
</tbody>
</table>

Value

Returns the value of Multiple Correlation between dependent and independent variables

Author(s)

Abirami S

Examples

## Example 1:
```
mcr(iris[,{-5}],1,c(2,3,4))  ## Returns multiple correlation between Sepal.Length and the other variables
```

## Example 2
```
mu<-c(10,12,13,14)
sig<-matrix(0,4,4)
diag(sig)<-c(2,1,1,3)
da<-MASS::mvrnorm(25,mu,sig)
mcr(da, 2,c(1,3,4))  ## Returns Multiple correlation when the data matrix simulated from a quadrivariate normal distribution is given as input
```

## Example 3
```
da<-var(iris[,{-5}])
mcr(da,3,c(1,2,4),FALSE) ## Returns multiple correlation between Petal.Width and the other variables when the correlation matrix is given as input
```
**mcr.test**

*Multiple Correlation Test of Significance*

**Description**
Tests the significance of multiple correlation coefficient

**Usage**
mcr.test(x, ld, rd)

**Arguments**
- **x**: Data Matrix or Variance Covariance or Correlation matrix
- **ld**: Label of dependent Variable
- **rd**: Vector of labels of independent variables

**Value**
a htest class object

**Author(s)**
Abirami S

**Examples**
```r
## Example
library(MASS)
mu<-c(10,12,13,14)
sig<-matrix(0,4,4)
diag(sig)<-c(2,1,1,2)
da<-mvrnorm(25,mu,sig)
mcr.test(da,1,c(2:4))
```
Index

mcr, 1
mcr.test, 3