Package 'ClusterRankTest'

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Type Package

Title Rank Tests for Clustered Data

Version 1.0

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Description

Nonparametric rank based tests (rank-sum tests and signed-rank tests) for clustered data, especially useful for clusters having informative cluster size and intra-cluster group size.

License GPL-2 | GPL-3

Depends graphics, stats, utils

NeedsCompilation no

Repository CRAN

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Contents

`ClusterRankTest-package`

Rank Tests for Clustered Data

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Details

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Author(s)

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`clus.rank.sum` *Cluster Rank Test*

Description

This package consists of methods that compute rank based tests for clustered data.

Usage

```
clus.rank.sum(Cluster, X, grp = NULL, Y = NULL, test = c("DS", "DD", "SDS"))
```

Arguments

`Cluster`	Cluster ID
`X`	Outcome variable
`grp`	Binary group indicator variable (0 or 1) if test= "DS" or "DD"
`Y`	Matched outcome variable if test="SDS"
`test`	"DS" =Datta-Satten rank-sum test, "DD" = Dutta-Datta rank-sum test, "SDS" = Data-Satten signed rank test

Value

`pvalue`	P-value for the test
`Test Statistic`	Test statistic value for the test

References

Datta, S., and Satten, G. A. (2005). Rank-sum tests for clustered data. Journal of the American Statistical Association, 100, 908-915.

Datta, S., and Satten, G. A. (2008). A Signed-rank test for clustered data. Biometrics, 64, 501-507.

Dutta, S., and Datta, S. (2015). A rank-sum test for clustered data when the number of subjects in a group within a cluster is informative. Biometrics, doi: 10.1111/biom.12447.

Examples

```
Cluster<-c(1,1,2,2,2,2,3,3,3)
X<-c(1,4,2,4,6,7,4,7,8)
grp<-c(0,1,0,0,1,1,1,0,1)
dataset <- list(Cluster,X,grp)

 clus.rank.sum(Cluster, X, grp, test="DS")
```

`dataset` *dataset*

Description

The dataset has three columns. The first two columns will be 'Cluster ID' and 'X'(outcome). The third column will be either 'Group Indicator' (for rank-sum tests) or 'Y'(paired outcome for signed-rank tests).

Usage

```
data("dataset")
```

`print.Cluster.Test` *Print function.*

Description

Prints the p-value and the test statistic.

Index