

# Package: ClusterRankTest (via r-universe)

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**Type** Package

**Title** Rank Tests for Clustered Data

**Version** 1.0

**Date** 2016-04-21

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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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 ClusterRankTest-package

*Rank Tests for Clustered Data*


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## Description

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

## Details

Package: ClusterRankTest  
 Type: Package  
 Version: 1.0  
 Date: 2016-04-21  
 License: GPL-2 | GPL-3

## Author(s)

Sandipan Dutta, Somnath Datta

Maintainer: Sandipan Dutta <sandipan.dutta07@gmail.com>

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 clus.rank.sum

*Cluster Rank Test*


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## 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")
```

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dataset	<i>dataset</i>
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**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")
```

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print.Cluster.Test	<i>Print function.</i>
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**Description**

Prints the p-value and the test statistic.

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