Package 'fastlogranktest'

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Type Package

Title A Fast Way to Calculate the p-Value of One or Multiple Log-Rank-Tests

Version 0.2

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Description A very fast Log-Rank-Test implementation that is several orders of magnitude faster than the implementation in the 'survival' package.
Log-Rank-Tests can be computed individually or concurrently using threading.

License GPL-3

URL https://github.com/compsysmed/fastlogranktest.git

Encoding UTF-8

LazyData true

RoxygenNote 7.0.2

LinkingTo Rcpp, BH

Imports Rcpp

Suggests testthat (>= 2.1.0), survival (>= 3.1)

NeedsCompilation yes

R topics documented:

logrank_test *Calculate the Log-Rank-Test very fast*

Description

Calculate the Log-Rank-Test very fast

Usage

```
logrank_test(groupa, groupb, groupacensored, groupbcensored)
```

Arguments

groupa	vector of group a's survival times
groupb	vector of group b's survival times
groupacensored	vector of censored information of group a's survival times
groupbcensored	vector of censored information of group b's survival times

Value

chi2 statistic, z-statistic, p-value

Examples

```
T1 <- c(6, 6, 6, 6, 7, 9, 10, 10, 11, 13, 16, 17, 19, 20, 22, 23, 25, 32, 32, 34, 35)
E1 <- c(1, 1, 1, 0, 1, 0, 1, 0, 0, 1, 1, 0, 0, 0, 1, 1, 0, 0, 0, 0, 0)
T2 <- c(1, 1, 2, 2, 3, 4, 4, 5, 5, 8, 8, 8, 8, 11, 11, 12, 12, 15, 17, 22, 23)
E2 <- c(1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1)
logrank_test(T1, T2, E1, E2)
#1.679294e+01 -4.097919e+00, 4.168809e-05
```

multi_logrank_test *Calculate multiple Log-Rank-Tests very fast*

Description

Calculate multiple Log-Rank-Tests very fast

Usage

```
multi_logrank_test(
  groupas,
  groupbs,
  groupacensoreds,
  groupbcensoreds,
  threadnumber = NULL
)
```

Arguments

groupas	list of vectors of groupa's survival times
groupbs	list of vectors of groupb's survival times
groupacensoreds	list of vectors of censored information of groupa's survival times
groupbcensoreds	list of vectors of censored information of groupb's survival times
threadnumber	(optional) set the number of threads used for this function

Value

vector of chi2 statistic, z-statistic, p-value (same order as input)

Examples

```
T1 <- c(6, 6, 6, 6, 7, 9, 10, 10, 11, 13, 16, 17, 19, 20, 22, 23, 25, 32, 32, 34, 35)
E1 <- c(1, 1, 1, 0, 1, 0, 1, 0, 0, 1, 1, 0, 0, 0, 1, 1, 0, 0, 0, 0, 0)
T2 <- c(1, 1, 2, 2, 3, 4, 4, 5, 5, 8, 8, 8, 8, 11, 11, 12, 12, 15, 17, 22, 23)
E2 <- c(1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1)
t1s<-list(T1, T1, T1)
e1s<-list(E1, E1, E1)
t2s<-list(T2, T2, T2)
e2s<-list(E2, E2, E2)
multi_logrank_test(t1s, t2s, e1s, e2s)
#1.679294e+01 -4.097919e+00 4.168809e-05 1.679294e+01 -4.097919e+00 4.168809e-05
#1.679294e+01 -4.097919e+00 4.168809e-05
```

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