Package 'bivariateCensored'

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Type Package

Title Computes the interval censored bivariate NPMLE

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Description Computes the interval censored bivariate NPMLE, or more generally, the MLE for a binary mixture model

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Imports MLEcens

R topics documented:

`bivariateNPMLE` *Computes the MLE for Bivariate Interval Censored Data*

Description

Computes the MLE for a Interval Censored Data

Usage

```
bivariateNPMLE(times, tol = 10^-10,
        inner_loops = 100, outer_loops = 20)
```

Arguments

times	n x 4 matrix representing bivariate interval censored data. The format is (l1, u1, l2, u2), i.e. the first column should be the lower limit of the first interval, second column is upper limit of first interval, etc.
tol	numerical tolerance
inner_loops	number of inner loops used
outer_loops	number of outer loops used

Examples

```
testData <- simBVCen()
#simulate bivariate interval censored data

bvcensFit <- bivariateNPMLE(testData)
#Finds the MLE

bvcensFit
```

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optCliq *Computes the MLE for a Binary Mixture Model*

Description

Computes the MLE for a Binary Mixture Model

Usage

```
optCliq(cliqMat, tol = 10^-10,
        inner_loops = 100, outer_loops = 20)
```

Arguments

cliqMat	n x m clique matrix. n = number of observations, m = number of components
tol	numerical tolerance
inner_loops	number of inner loops used
outer_loops	number of outer loops used

Examples

```
testData <- simBVCen()
#simulate bivariate interval censored data

cliqMat <- MLEcens::reduc(testData, cm = TRUE)$cm
#computes the cliqMat associated with data

cliqMat <- t(cliqMat)
#reduc returns an m x n matrix, so
#needs to be transposed for compatibility with optCliq

cliqFit <- optCliq(cliqMat)
#optimizes the component weights for clique matrix

cliqFit
```

simBVCen *Simulates Bivariate Interval Censored Data*

Description

Simulates Bivariate Interval Censored Data

Usage

```
simBVCen(n = 1000)
```

Arguments

n	number of observations simulated

Examples

```
testData <- simBVCen()
#simulate bivariate interval censored data

bvcenFit <- bivariateNPMLE(testData)

bvcenFit
```

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