Package 'hasseDiagram'

Type Package

Title Drawing Hasse Diagram

Version 0.1.3

Date 2017-02-24

Author Krzysztof Ciomek

Maintainer Krzysztof Ciomek <k.ciomek@gmail.com>

URL https://github.com/kciomek/hasseDiagram

Depends Rgraphviz (>= 2.6.0), grid (>= 3.0.2), graph

Imports methods

Description
    Drawing Hasse diagram - visualization of transitive reduction of a finite partially ordered set.

License MIT + file LICENSE

NeedsCompilation no

Repository CRAN

Date/Publication 2017-02-24 00:30:22

R topics documented:

---

hasseDiagram-package   *Drawing Hasse Diagram*

Description

    Drawing Hasse diagram - visualization of transitive reduction of a finite partially ordered set.

Details

1

Package:	hasseDiagram
Type:	Package
Version:	0.1.3
Date:	2017-02-24
License:	MIT

Author(s)

Krzysztof Ciomek

Maintainer: Krzysztof Ciomek <k.ciomek@gmail.com>

See Also

[hasse](#)

---

generateRandomData	*Generate random data for hasse function*

Description

This function generates random data for [hasse](#) function.

Usage

```
generateRandomData(nrNodes, minGraphs = 1, density = 0.5)
```

Arguments

nrNodes	Numer of nodes (0 < nrNodes).
minGraphs	Minimal number of graphs to generate (0 < minGraphs <= nrNodes).
density	Value which determines number of edges and shape of graphs (density in [0.0; 1.0]).

Value

nrNodes x nrNodes matrix.

Examples

```
data0_0 <- generateRandomData(15, 2, 0.0)
data0_5 <- generateRandomData(15, 2, 0.5)
data1_0 <- generateRandomData(15, 2, 1.0)

hasse(data0_0)
hasse(data0_5)
hasse(data1_0)
```

---

hasse   *Draw Hasse diagram*

Description

This function draws Hasse diagram – visualization of transitive reduction of a finite partially ordered set.

Usage

```
hasse(data, labels = c(), parameters = list())
```

Arguments

data	*n* x *n* matrix, which represents partial order of *n* elements in set. Each cell [i, j] has value TRUE iff *i*-th element precedes *j*-th element.
labels	Vector containing labels of elements. If NULL names of rows of parameter data will be used or labels will be generated ('a' + element index) in case rownames(data) is NULL.
parameters	List with named elements:

- arrow – direction of arrows: "forward", "backward" or "both" (default "forward"),
- cluster – whether to cluster elements which have same parents and children and are connected all to all (see first commented example) (default TRUE),
- newpage – whether to call grid.newpage() before drawing (default TRUE),
- shape – shape of diagram nodes: "roundrect" or "rect" (default "roundrect"),
- transitiveReduction – whether to perform transitive reduction (default TRUE).

Examples

```
randomData <- generateRandomData(15, 2, 0.5)
hasse(randomData)

# Clustering example
data <- matrix(data = FALSE, ncol = 4, nrow = 4)
data[1, 2] = data[1, 3] = data[2, 4] = data[3, 4] = TRUE
data[2, 3] = data[3, 2] = TRUE
hasse(data, c(), list(cluster = TRUE))
hasse(data, c(), list(cluster = FALSE))

# Hasse to pdf example
# randomData <- generateRandomData(15, 2, 0.5)
# pdf("path-for-diagram.pdf")
# hasse(randomData, NULL, list(newpage = FALSE))
# dev.off()
```

Index