Package 'muRty'

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Title Murty's Algorithm for k-Best Assignments

Version 0.3.0

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Description Calculates k-best solutions and costs for an assignment problem following the method outlined in Murty (1968) <doi:10.1287/opre.16.3.682>.

URL https://github.com/arg0naut91/muRty

BugReports https://github.com/arg0naut91/muRty/issues

Depends R (>= 3.1.0)

Imports clue, lpSolve

Suggests testthat

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Encoding UTF-8

LazyData true

RoxygenNote 6.1.1

NeedsCompilation no

Repository CRAN

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R topics documented:

get_k_best *Murty's algorithm for k-best assignments*

Description

Find k-best assignments for a given matrix (returns both solved matrices and costs).

Usage

```
get_k_best(mat, k_best = NULL, algo = "hungarian", by_rank = FALSE,
  objective = "min", proxy_Inf = 10000000L)
```

Arguments

mat	Square matrix (N x N) in which values represent the weights.
k_best	How many best scenarios should be returned. If by_rank = TRUE, this equals best ranks.
algo	Algorithm to be used, either 'lp' or 'hungarian'; defaults to 'hungarian'.
by_rank	Should the solutions with same cost be counted as one and stored in a sublist? Defaults to FALSE.
objective	Should the cost be minimized ('min') or maximized ('max')? Defaults to 'min'.
proxy_Inf	What should be considered as a proxy for Inf? Defaults to 10e06; if objective = 'max' the sign is automatically reversed.

Value

A list with solutions and costs (objective values).

Examples

```
set.seed(1)
mat <- matrix(sample.int(15, 10*10, TRUE), 10, 10)

get_k_best(mat, 3)
```

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