

Package: muRty (via r-universe)

August 31, 2024

Title Murty's Algorithm for k-Best Assignments

Version 0.3.1

Author Aljaz Jelenko [aut, cre]

Maintainer Aljaz Jelenko <aljaz.jelenko@amis.net>

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

License MIT + file LICENSE

Encoding UTF-8

LazyData true

RoxygenNote 7.0.2

Repository <https://arg0naut91.r-universe.dev>

RemoteUrl <https://github.com/arg0naut91/murty>

RemoteRef HEAD

RemoteSha 04d5ee841960bea7d2a77417e88cfdc51adcc32c

Contents

get_k_best 2

Index 3

`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

<code>mat</code>	Square matrix (N x N) in which values represent the weights.
<code>k_best</code>	How many best scenarios should be returned. If <code>by_rank = TRUE</code> , this equals best ranks.
<code>algo</code>	Algorithm to be used, either 'lp' or 'hungarian'; defaults to 'hungarian'.
<code>by_rank</code>	Should the solutions with same cost be counted as one and stored in a sublist? Defaults to FALSE.
<code>objective</code>	Should the cost be minimized ('min') or maximized ('max')? Defaults to 'min'.
<code>proxy_Inf</code>	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)
```

Index

`get_k_best`, 2