Package ‘muRty’

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Title Murty’s Algorithm for k-Best Assignments
Version 0.3.1
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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
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R topics documented:

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**
```r
get_k_best(
  mat,
  k_best = NULL,
  algo = "hungarian",
  by_rank = FALSE,
  objective = "min",
  proxy_Inf = 1000000L
)
```

**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**
```r
set.seed(1)
mat <- matrix(sample.int(15, 10*10, TRUE), 10, 10)
get_k_best(mat, 3)
```
Index

get_k_best, 2