Package ‘muRty’

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Title  Murty's Algorithm for k-Best Assignments
Version 0.3.0
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

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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 = 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

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