Package 'ROI.models.netlib'

April 17, 2023

Type Package

Title 'ROI' Optimization Problems Based on 'NETLIB-LP'

Version 1.1-2

Description A collection of 'ROI' optimization problems based on the 'NETLIB-LP' collection. 'Netlib' is a software repository, which amongst many other software for scientific computing contains a collection of linear programming problems. The purpose of this package is to make this problems easily accessible from 'R' as 'ROI' optimization problems.

Depends R (>= 3.5.0)

Imports ROI (>= 1.0-0)

Suggests Rglpk (>= 0.6-2)

License GPL-3

RoxygenNote 7.2.3

NeedsCompilation no

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Repository CRAN

Date/Publication 2023-04-17 21:00:02 UTC

R topics documented:

netlib *Obtain Netlib Linear Problems*

Description

If x is missing a character vector giving the names of all available problems is returned. If x is "all" a list containing all the optimization problems is returned. If x is the name of an optimization problem, the given optimization problem is returned. If x is "metainfo" a data.frame containing all the meta info is returned.

Usage

```
netlib(x=c("all", "metainfo", "adlittle", "afiro", "agg", "agg2",
           "agg3",  "bandm", "beaconfd", "blend", "bnl1", "bnl2",
           "boeing1", "boeing2", "bore3d", "brandy", "capri",  "cycle",
           "czprob", "d2q06c", "d6cube", "degen2",  "degen3", "dfl001",
           "e226", "etamacro", "fffff800",  "finnis", "fit1d", "fit1p",
           "fit2d", "fit2p",  "forplan", "ganges", "gfrd.pnc", "greenbea",
           "greenbeb", "grow15", "grow22", "grow7", "israel", "kb2",
           "lotfi", "maros.r7", "maros", "modszk1", "nesm", "perold",
           "pilot.ja", "pilot",  "pilot.we", "pilot4", "pilot87",
           "pilotnov",  "recipe", "sc105", "sc205", "sc50a", "sc50b",
           "scagr25", "scagr7", "scfxm1", "scfxm2", "scfxm3", "scorpion",
           "scrs8", "scsd1", "scsd6", "scsd8",  "sctap1", "sctap2", "sctap3",
         "seba", "share1b",  "share2b", "shell", "ship04l", "ship04s", "ship08l",
           "ship08s", "ship12l", "ship12s", "sierra", "stair",
           "standata", "standmps", "stocfor1", "stocfor2", "stocfor3",
          "truss", "tuff", "vtp.base", "wood1p",  "woodw","x25fv47", "x80bau3b"))
```

Arguments

x	a character giving the name of the optimization problem to be returned.

Details

Netlib is a software repository, which amongst many other software for scientific computing contains a collection of linear programming problems. The column optimal_value contains the results published in Koch (2004).

References

[NETLIB-LP] Koch, Thorsten (2004) The final NETLIB-LP results. Operations Research Letters https://opus4.kobv.de/opus4-zib/files/727/ZR-03-05.pdf

Examples

```
## Not run:
  library(ROI)
  library(ROI.models.netlib)
  ## list all available problems
  netlib()
  ## get all problems as a list
  ntlb <- netlib("all")
  ## get a certain problem by name
  netlib("afiro")
  ntlb[["afiro"]]
  ## get the meta info to the problems
  netlib("metainfo")
  ## solve a problem
  sol <- ROI_solve(netlib("afiro"))
  sol
  sol$objval - as.numeric(netlib("metainfo")["afiro", "final_results"])

## End(Not run)
```

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