Package: ROI.plugin.neos (via r-universe)

August 11, 2024

Version 1.0-0

Title 'NEOS' Plug-in for the 'R' Optimization Interface

Description Enhances the 'R' Optimization Infrastructure ('ROI') package with a connection to the 'neos' server. 'ROI' optimization problems can be directly be sent to the 'neos' server and solution obtained in the typical 'ROI' style.

Imports stats, methods, utils, ROI (>= 0.3-0), xmlrpc2, xml2

Suggests slam

License GPL-3

URL http://roi.r-forge.r-project.org/, https://r-forge.r-project.org/projects/roi/

Repository https://r-forge.r-universe.dev

RemoteUrl https://github.com/r-forge/roi

RemoteRef HEAD

RemoteSha f089cbe8d2717ead4862edf2c866ead61659e1f6

Contents

`control` *Control Variables*

Description

The control variables for `ROI.plugin.neos`.

Arguments

user	a character string giving the username.
email	a character string giving the email address.
dry_run	a logical if TRUE **ROI** returns the solver call.
wait	a logical indicating whether the R interpreter should wait for the command to finish, or run it asynchronously. If TRUE **ROI** returns an object of class "neos_job".

Example-1 *Linear Problem 1*

Description

$$maximize \;\; 2x_1 + 4x_2 + 3x_3$$

$$subject\ to:$$

$$3x_1 + 4x_2 + 2x_3 \leq 60$$

$$2x_1 + x_2 + 2x_3 \leq 40$$

$$x_1 + 3x_2 + 2x_3 \leq 80$$

$$x_1, x_2, x_3 \geq 0$$

Examples

```
## Not run:
library(ROI)
mat <- matrix(c(3, 4, 2,
                2, 1, 2,
                1, 3, 2), nrow=3, byrow=TRUE)
x <- OP(objective = c(2, 4, 3),
        constraints = L_constraint(L = mat,
                                   dir = c("<=", "<=", "<="),
                                   rhs = c(60, 40, 80)),
        maximum = TRUE)


opt <- ROI_solve(x, solver = "neos", method = "scip")
opt
## Optimal solution found.
## The objective value is: 7.666667e+01
solution(opt)
## [1]  0.000000  6.666667 16.666667

## End(Not run)
```

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