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

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Version 1.0-0

Title 'quadprog' Plug-in for the 'R' Optimization Infrastructure

Description Enhances the R Optimization Infrastructure ('ROI') package by registering the 'quadprog' solver. It allows for solving quadratic programming (QP) sproblems.

Imports methods, quadprog, ROI (>= 0.3-0), 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

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`Example-1` *Quadratic Problem 1*

Description

$$maximize \;\; x_1^2 + x_2^2 + x_3^2 - 5x_2$$

$$subject\ to:$$

$$-4x_1 - 3x_2 + \geq -8$$

$$2x_1 + x_2 + \geq 2$$
$$-2x_2 + x_3 \geq 0$$
$$x_1, x_2, x_3 \geq 0$$

Examples

```
require("ROI")
A <- cbind(c(-4, -3, 0),
           c( 2,  1, 0),
           c( 0, -2, 1))
x <- OP(Q_objective(diag(3), L =  c(0, -5, 0)),
        L_constraint(L = t(A),
                     dir = rep(">=", 3),
                     rhs = c(-8, 2, 0)))

opt <- ROI_solve(x, solver="quadprog")
opt
## Optimal solution found.
## The objective value is: -2.380952e+00
solution(opt)
## [1]  0.4761905 1.0476190 2.0952381
```

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