Package 'ROI.plugin.nloptr'

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Version 1.0-1

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

Description Enhances the R Optimization Infrastructure ('ROI') package
with the 'NLopt' solver for solving nonlinear optimization problems.

Imports methods, stats, utils, ROI (>= 1.0-0), nloptr (>= 1.2.1)

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URL https://roigrp.gitlab.io,

https://gitlab.com/roigrp/solver/ROI.plugin.nloptr

NeedsCompilation no

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R topics documented:

Example-1 *NLP 1*

Description

The following example solves the Rosenbrock function (https://en.wikipedia.org/wiki/Rosenbrock_function).

$$minimize\ f(x) = 100(x_2 - x_1^2)^2 + (1 - x_1)^2$$

Examples

```
library(ROI)

f <- function(x) {
    return( 100 * (x[2] - x[1]^2)^2 + (1 - x[1])^2 )
}

f.gradient <- function(x) {
    return( c( -400 * x[1] * (x[2] - x[1] * x[1]) - 2 * (1 - x[1]),
                200 * (x[2] - x[1] * x[1])) )
}

x <- OP( objective = F_objective(f, n = 2L, G = f.gradient),
         bounds = V_bound(ld = -3, ud= 3, nobj = 2L) )

nlp <- ROI_solve(x, solver = "nloptr.lbfgs", start = c(-1.2, 1))
nlp
## Optimal solution found.
## The objective value is: 1.189412e-15
solution(nlp)
## [1] 1 1
```

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