Package 'ROI.plugin.highs'

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Version 1.0-4

Title 'HiGHS' Plugin for the 'R' Optimization Infrastructure

Description Enhances the 'R' Optimization Infrastructure ('ROI') package with the quadratic solver 'HiGHS'. More information about 'HiGHS' can be found at <https://highs.dev>.

Imports methods, ROI (>= 1.0-0), highs (>= 1.9.0-0)

Suggests tinytest

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NeedsCompilation no

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Repository CRAN

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`Example-1` *Linear Problem 1*

Description

$$
\begin{aligned}
&maximize \;\; 2x_1 + 4x_2 + 3x_3 \\
&subject\ to: \\
&3x_1 + 4x_2 + 2x_3 \leq 60 \\
&2x_1 + x_2 + 2x_3 \leq 40 \\
&x_1 + 3x_2 + 2x_3 \leq 80 \\
&x_1, x_2, x_3 \geq 0
\end{aligned}
$$

Examples

```
Sys.setenv(ROI_LOAD_PLUGINS = FALSE)
library("ROI")
library("ROI.plugin.highs")
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 = "highs")
opt
## Optimal solution found.
## The objective value is: 7.666667e+01
solution(opt)
## [1]  0.000000  6.666667 16.666667
```

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