

# Package ‘ROI.plugin.highs’

April 24, 2025

**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

**License** GPL-2 | GPL-3

**NeedsCompilation** no

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**Repository** CRAN

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Example-1	<i>Linear Problem 1</i>
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## Description

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

**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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