# Package 'ROI.plugin.optimx'

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**Version** 0.3-2

**Title** 'optimx' Plug-in for the 'R' Optimization Infrastructure

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**Description** Enhances the R Optimization Infrastructure ('ROI') package with the 'optimx' package.

**Imports** methods, stats, utils, ROI (>= 0.3-2), optimx

**Suggests** BB, ucminf, minqa, dfoptim, lbfgsb3, lbfgs, subplex

**License** GPL-3

**URL** http://R-Forge.R-project.org/projects/roi

**NeedsCompilation** no

**Repository** CRAN

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## R topics documented:



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`Example-1` *Banana*

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### Description

The following example is also known as Rosenbrock's banana function (https://en.wikipedia.org/wiki/Rosenbrock_function).

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

Solution: `c(1, 1)`

## 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="optimx", start=c(-1.2, 1), method = "Rvmmin")
nlp
## Optimal solution found.
## The objective value is: 4.979684e-30
solution(nlp)
## [1] 1 1
```

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