goal programming

**library**("lpSolveAPI")

With M = 1000, mutiply 2 in ‘2 y2n’ with 1000 to give 2000 the same goes for ‘3 y3p’

min: 5 y1n + 2000 y2p + 4 y2n + 3000 y3p;

12 x1 + 9 x2 + 15 x3 - y1p + y1n = 125;

5 x1 + 3 x2 + 4 x3 - y2p + y2n = 40;

5 x1 + 7 x2 + 8 x3 - y3p + y3n = 55;

x1 >= 0;

x2 >= 0;

x3 >= 0;

y1p >= 0;

y2p >= 0;

y3p >= 0;

y1n >= 0;

y2n >= 0;

y3n >= 0;

gp <- read.lp("gp\_someike.lp")

gp

## Model name:

## a linear program with 9 decision variables and 3 constraints

solve(gp)

## [1] 0

get.objective(gp)

## [1] 43.75

vars <- get.variables(gp)

names(vars) <- c("y1n", "y2p", "y2n", "y3p", "x1" ,"x2", "x3", "y1p", "y3n")

vars

## y1n y2p y2n y3p x1 x2 x3 y1p y3n

## 8.75 0.00 0.00 0.00 5.00 0.00 3.75 0.00 0.00