LP HW 2

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R Markdown

library("lpSolve")

$$maxZ = 420(Lp1 + Lp2 + Lp3) + 360(Mp1 + Mp2 + Mp3) + 300(Sp1 + Sp2 + sp3)$$

f.obj <- c(420,420,420,360,360,360,300,300,300)

$$Contstraints$$

$$Sales$$

$$Lp_1 + Lp_2 + Lp_3 <= 900$$

$$Mp_1 + Mp_2 + Mp_3 <= 1200$$

$$Sp_1 + Sp_2 + Sp_3 <= 7500$$

$$Storage$$

$$20Lp_1 + 15Mp_1 + 12Sp_1 <= 13000$$

$$20Lp_2 + 15Mp_2 + 12Sp_2 <= 12000$$

$$20Lp_3 + 15Mp_3 + 12Sp_3 <= 5000$$

$$Capacity$$

$$Lp_1 + Mp_1 + Sp_1 <= 750$$

$$Lp_2 + Mp_2 + Sp_2 <= 900$$

$$Lp_3 + Mp_3 + Sp_3 <= 450$$

f.con <- matrix(c(1,1,1, 1,1,1, 1,1,1, 20,15,12, 20,15,12, 20,15,12, 1,1,1, 1,1,1, 1,1,1),nrow=9, byrow = TRUE)

f.dir <- c("<=", "<=", "<=", "<=", "<=", "<=", "<=", "<=", "<=")

f.rhs <- c(750,900,450,13000,12000,5000,900,1200,7500)

$$Solution$$

lp ("max", f.obj, f.con, f.dir, f.rhs)

$$Success : theobjectivefunctionis300$$

lp ("max", f.obj, f.con, f.dir, f.rhs)$solution

$$[1]000000001$$