Q1

y_1$^{+-y_1}$-=6x_1+4x_2+5x_3-50

y_2$^{+-y_2}$-=8x_1+7x_2+5x_3-75

Q2

maximize Z=20x_1+15x_2+5x_3-6y_1$^{+-6y_1}$+-3y_2^-

6x_1+4x_2+5x_3-(y_1$^{+-y_1}$-)=50$

8x_1+7x_2+5x_3-(y_2$^{+-y_2}$-)=75$

x_j>=0,y_i$^{+>=0,y_i}$->=0

Q3

library(lpSolveAPI) mylp<-read.lp("C:/Users/Administrator/Desktop/my1.lp") # // Objective function # # max: 20x1+15x2+5x3-6y1n-6y1p-3y2n; # # // Constraints # # 6x1 + 4x2 + 5x3 + y1n - y1p = 50; # # 8x1 + 7x2 + 5x3 + y2n = 75; # solve(mylp) get.objective(mylp) get.variables(mylp)

x1=5,x2=5,x3=0. In this condition, y1n=0,y1p=0,y2n=0. In other words, 6x1 + 4x2 + 5x3=50, 8x1 + 7x2 + 5x3 = 75, which satisfied all demands. Under this, the objective is got as 175.