QMM Assignment 2

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#Installed the library lpsolve  
library(lpSolve)  
  
#Objective function  
f.objective=c(420,360,300,  
 420,360,300,  
 420,360,300)  
  
#Subject to restrictions:  
STR=matrix(c(1,1,1,0,0,0,0,0,0,  
 0,0,0,1,1,1,0,0,0,  
 0,0,0,0,0,0,1,1,1,  
 20,15,12,0,0,0,0,0,0,  
 0,0,0,20,15,12,0,0,0,  
 0,0,0,0,0,0,20,15,12,  
 1,0,0,1,0,0,1,0,0,  
 0,1,0,0,1,0,0,1,0,  
 0,0,1,0,0,1,0,0,1),nrow=9,byrow=TRUE)  
  
#Defining the direction of inequality constraints:  
signs=c("<=","<=","<=","<=","<=","<=","<=","<=","<=")  
  
#Setting up the right hand side values:  
rhs=c(750,900,450,13000,12000,5000,900,1200,750)  
  
#Value of Z:  
lp("max", f.objective, STR, signs, rhs)

## Success: the objective function is 708000

#Final Soultion:  
lp("max", f.objective, STR, signs, rhs)$solution

## [1] 350.0000 400.0000 0.0000 0.0000 400.0000 500.0000 0.0000 133.3333  
## [9] 250.0000