QMM-Assignment-6

Karthikeyan ramesh

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library(lpSolve)  
library(lpSolveAPI)  
y <- read.lp("ass10.lp")  
y

Model name:   
 X1 X2 X3 X4 X5 X6 X7   
Minimize 775 800 800 800 800 775 750   
Sunday 0 1 1 1 1 1 0 >= 18  
Monday 0 0 1 1 1 1 1 >= 27  
Tuesday 1 0 0 1 1 1 1 >= 22  
Wednesday 1 1 0 0 1 1 1 >= 26  
Thursday 1 1 1 0 0 1 1 >= 25  
Friday 1 1 1 1 0 0 1 >= 21  
Saturday 1 1 1 1 1 0 0 >= 19  
Kind Std Std Std Std Std Std Std   
Type Int Int Int Int Int Int Int   
Upper Inf Inf Inf Inf Inf Inf Inf   
Lower 0 0 0 0 0 0 0

Solving the problem to get objective function.

solve(y)

## [1] 0

get.objective(y)

## [1] 25675

#Our Objective function is: 25675. #Let’s examine the factors to determine what this means..

get.variables(y)

## [1] 2 4 5 0 8 1 13

### What it illustrates is:

#X1 = shift 1 with Sunday and Monday off = 2 #X2 = shift 2 with Monday and Tuesday off = 4 #X3 = shift 3 with Tuesday and Wednesday off = 5 #X4 = shift 4 with Wednesday and Thursday off = 0 #X5 = shift 5 with Thursday and Friday off = 8 #X6 = shift 6 with Friday and Saturday off = 1 #X7 = shift 7 with Saturday and Sunday off = 13

### Our goal-oriented purpose = 2x775 + 4x800 + 5x800 + 8x800 + 1X775 + 13x750 = 25675.

### The bare least that we can afford to pay for salary is 25675.