sjain15_Assignment 2

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#Load the "lpSolveAPI" packages.

```
library(lpSolve)
```

#Setting working directory

```
setwd("~/Desktop/QMM")
```

#Set the objective function for the problem.

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

#writing the contraints

```
f.con <- 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,
                  0,0,0,25,15,12,0,0,0,
                  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)
```

#Setting inequaliy direction signs

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

#Setting right hand coefficients

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

#Final value

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

```
## Success: the objective function is 754000
```

#Variable final values

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

```
## [1]  83.33333 666.66667   0.00000   0.00000 400.00000 500.00000   0.00000
## [8] 133.33333 250.00000
```