

Assignment 2

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```
library(lpSolve)#Calling the library
```

```
f.obj<-c(420,360,300,420,360,300,420,360,300)#Coefficients from the Objective Function,Z;
```

```
f.con<-matrix(c(1,1,1,0,0,0,0,0,0,0,
               #Coefficients from the Capacity constraints of Plant1
               0,0,0,1,1,1,0,0,0,0,#Plant2
               0,0,0,0,0,0,0,1,1,1,#Plant3
               1,0,0,1,0,0,0,1,0,0,
               #Coefficients from the Sales Forecasts constraints of size Large
               0,1,0,0,1,0,0,1,0,#Medium
               0,0,1,0,0,1,0,0,1,#Small
               20,15,12,0,0,0,0,0,0,0,
               #Coefficients from Storage Space Constraints of Plant1
               0,0,0,20,15,12,0,0,0,#Plant2
               0,0,0,0,0,0,0,20,15,12,#Plant3
               900,900,900,-750,-750,-750,0,0,0,
               #Coefficients of To avoid the employees layoff constraints
               0,0,0,450,450,450,-900,-900,-900,
               450,450,450,0,0,0,-750,-750,-750),nrow=12,byrow=TRUE)
```

```
f.dir<-c("<=", "<=", "<=", "<=", "<=", "<=", "<=", "<=", "<=", "=", "=", "=")#Inequality and equality signs from t
```

```
f.rhs<-c(750,900,450,900,1200,750,13000,12000,5000,0,0,0)
#Right hand side Coefficients of total constraints
```

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

```
## Success: the objective function is 696000
```

```
#final value of Z
```

```
lp("max",f.obj,f.con,f.dir,f.rhs,int.vec = 1:9)$solution
```

```
## [1] 530 160 0 0 688 140 1 8 405
```

```
#Variables final values
```