Integer programming

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```
library(lpSolve)
library(lpSolveAPI)
y <- read.lp("ass11.lp")
y
```

```
Model name:
  a linear program with 14 decision variables and 7 constraints
```

Solving the problem to get objective function.

```
solve(y)
```

```
## [1] 0
```

```
get.objective(y)
```

```
## [1] 0
```

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

```
get.variables(y)
```

```
##  [1]  0  0  0  0  0  0  0  0 13  0 14  0 12  0
```

What it illustrates is:

#Y1 = Sunday and Monday are off for shift 1 = 2 #Y2 = Monday and Tuesday are off for shift 2 = 4 #Y3 = Tuesday and Wednesday are off for shift 3= 5 #Y4 = Wednesday and Thursday are off for shift 4 = 0 #Y5 = Thursday and Friday are off for shift 5 = 8 #Y6 = Friday and Saturday are off for shift 6 = 1 #Y7 = Saturday and Sunday are off for shift 7 = 13

Our objective function = 2x775 + 4x800 + 5x800 + 8x800 + 1X775 + 13x750 = 25675.

The least amount we must spend on wages is \$2675.