Module 11

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```
library(lpSolveAPI)
IP<-read.lp("Module11.LP")
IP
```

```
## 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
```

```
solve(IP)
```

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

```
get.objective(IP)
```

```
## [1] 25675
```

The total salary cost per week is $5,675.

```
get.variables(IP)
```

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

2 employees will work shift 1 with Sundays and Mondays off and have a salary of 775

4 employees will work shift 2 with Mondays and Tuesdays off and have a salary of 800

5 employees will work shift 3 with Tuesdays and Wednesdays off and have a salary of 800

0 employees will work shift 4

8 employees will work shift 5 with Thursdays and Fridays off and have a salary of 800

1 employee will work shift 6 with Fridays and Saturdays off and have a salary of 775

13 employees will work shift 7 with Saturdays and Sundays off and have a slary of 750

```
get.constraints(IP)
```

```
## [1] 18 27 24 28 25 24 19
```

These are the numbers of workers available each day. Tuesdays and Wednesdays have 2 extra people and Fridays have 3 extra people.