QQM Assignment: Module 11

Gowtham Chakri Mallepaka

2022-11-21

```
library(lpSolveAPI)
AP<-read.lp("C:/Users/reliance digital/Downloads/AP.lp")
AP
```

```
## 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(AP)
```

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

Here 0 means that the model exists

```
get.objective(AP)
```

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

With the given conditions it costs the company $25,675.

```
get.variables(AP)
```

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

x1=2
x2=4
x3=5
x4= 0

x5=8
x6= 1
x7=13

Number of workers on each day are as follows:
Sunday: x2 + x3 + x4 + x5 + x6 = 18
Monday: x3 + x4 + x5 + x6 + x7 = 27
Tuesday: x4 + x5 + x6 + x7 + x1 = 24
Wednesday: x5 + x6 + x7 + x1 + x2 = 28
Thursday: x6 + x7 + x1 + x2 + x3 = 25
Friday: x7 + x1 + x2 + x3 + x4 = 24
Saturday: x1 + x2 + x3 + x4 + x5 = 19