MIS 64018 - Assignment 6

Ryan Harris

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Load library

```
library(lpSolveAPI)
```

```
## Warning: package 'lpSolveAPI' was built under R version 4.0.3
```

Load the .lp file which was created in R by hand (no coding)

```
x <- read.lp("rharri74_6.lp") # create an lp object x
x                             # display x
```

```
## Model name:
##            y1m   y1p   y2m    x1    x2    x3
## Maximize     6    -6    -3     0     0     0
## R1           1    -1     0     6     4     5   =  50
## R2           0     0     1     8     7     5  >=  75
## Kind       Std   Std   Std   Std   Std   Std
## Type      Real  Real  Real  Real  Real  Real
## Upper      Inf   Inf   Inf   Inf   Inf   Inf
## Lower        0     0     0     0     0     0
```

Solve the lp model

```
solve(x)
```

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

```
get.objective(x)
```

```
## [1] 75
```

```
get.variables(x)
```

```
## [1] 50  0 75  0  0  0
```

Question 2:

x_1: 0

x_2: 0

x_3: 0

y_1^+: 50

y_1^-: 0

y_2^-: 75

Question 3:

The model above does not work because it suggests x_1, x_2, and $x_3 = 0$. Thus it is showing the full penalty for both y_1 and y_2. This may be because I was unable to enter a constraint to maximize P. The example in the presentation showed constrains with bounds and I was unable to locate anything online or in the reading to specify how to enter the maximize function in R.