

# Assignment2

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## R Markdown

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see <http://rmarkdown.rstudio.com>.

When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
setwd("C:\\Users\\Ananth\\OneDrive\\Desktop\\MSBA Kent\\Fall 2021\\Quantittative management modelling\\Module 4")
```

```
.libPaths("C:\\Users\\Ananth\\OneDrive\\Desktop\\MSBA Kent\\Fall 2021\\Quantittative management modelling\\Module 4")
```

We now read the lp formulation using an lp file. To read about about the lp format for files, you can read the documentation at <http://lpsolve.sourceforge.net/5.5/lp-format.htm>.

```
library(lpSolve)
```

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

```
library(lpSolveAPI)
```

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

```
setwd("C:\\Users\\Ananth\\OneDrive\\Desktop\\MSBA Kent\\Fall 2021\\Quantittative management modelling\\")  
x <- read.lp("wgc.lp") # create an lp object x# display x
```

Solve the lp model

```
solve(x)
```

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

```
get.objective(x) # objective value
```

```
## [1] 292316.7
```

```
get.variables(x) # values of decision variables
```

```
## [1] 350.0000 0.0000 0.0000 400.0000 0.0000 0.0000 0.0000 900.0000  
## [9] 416.6667
```

```
get.constraints(x)      #  constraint RHS values

## [1]  750.0000   900.0000  416.6667 13000.0000 10800.0000  5000.0000   350.0000
## [8]  400.0000 1316.6667
```