Assignment 10

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.

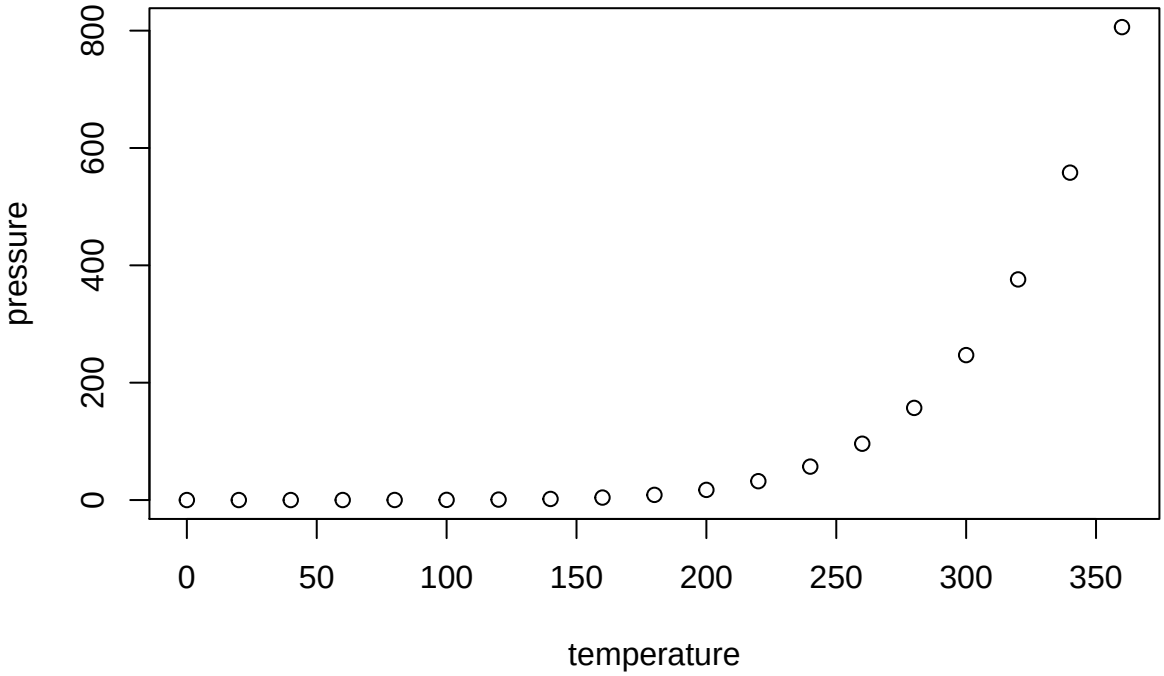
When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
summary(cars)
```

```
##      speed           dist       
##  Min.   : 4.0   Min.   :  2.00  
##  1st Qu.:12.0   1st Qu.: 26.00  
##  Median :15.0   Median : 36.00  
##  Mean   :15.4   Mean   : 42.98  
##  3rd Qu.:19.0   3rd Qu.: 56.00  
##  Max.   :25.0   Max.   :120.00
```

Including Plots

You can also embed plots, for example:



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.

Package Installation

```
library(statsr)
library(dplyr)
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```
library(ggplot2)
```

Excercise 1

```
dim(CO2)
```

```
## [1] 84  5
```

```
CO2[1:10, c("Type","Treatment","uptake")]
```

```
##       Type  Treatment uptake
## 1  Quebec nonchilled   16.0
## 2  Quebec nonchilled   30.4
## 3  Quebec nonchilled   34.8
## 4  Quebec nonchilled   37.2
## 5  Quebec nonchilled   35.3
## 6  Quebec nonchilled   39.2
## 7  Quebec nonchilled   39.7
## 8  Quebec nonchilled   13.6
## 9  Quebec nonchilled   27.3
## 10 Quebec nonchilled   37.1
```

Excercise 2

```
CO2$conc
```

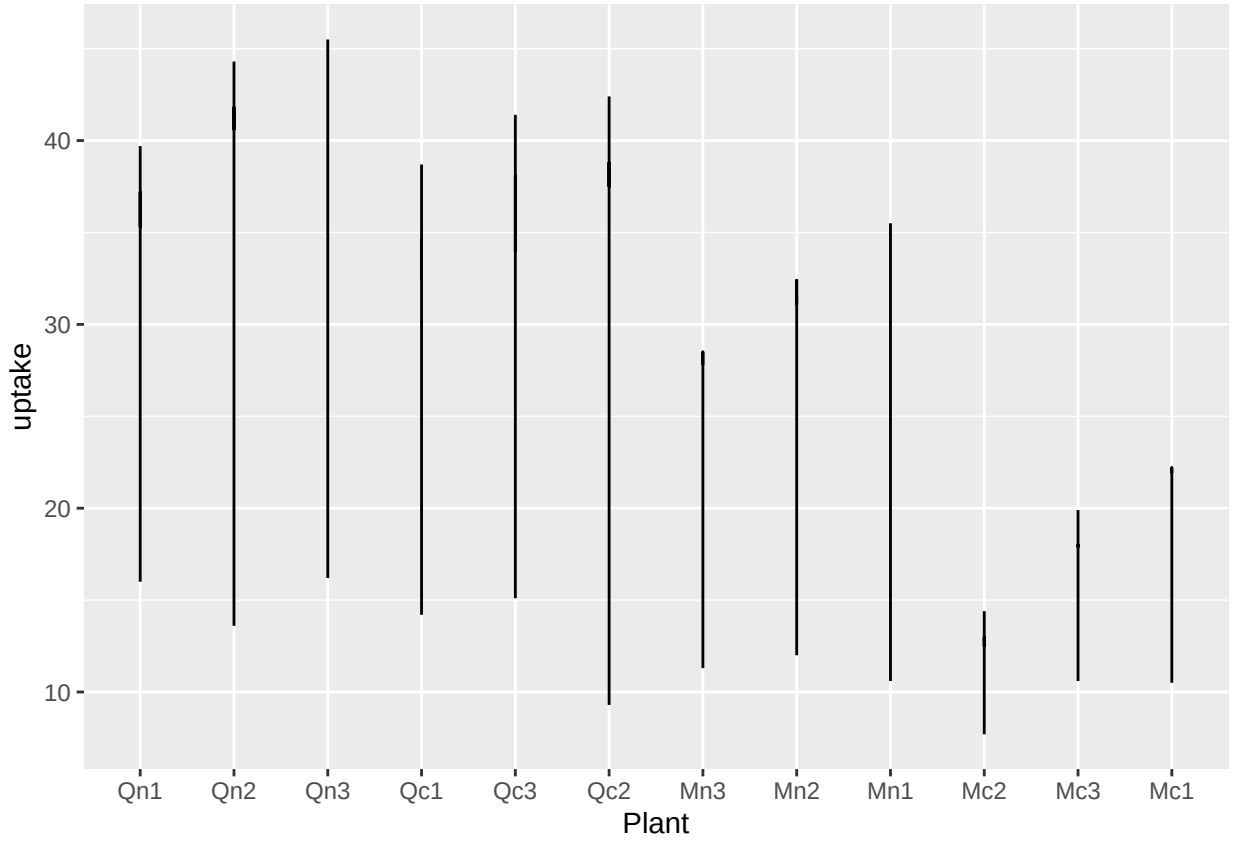
```
##  [1]   95  175  250  350  500  675 1000   95  175  250  350  500  675 1000   95
## [16]  175  250  350  500  675 1000   95  175  250  350  500  675 1000   95  175
## [31]  250  350  500  675 1000   95  175  250  350  500  675 1000   95  175  250
## [46]  350  500  675 1000   95  175  250  350  500  675 1000   95  175  250  350
## [61]  500  675 1000   95  175  250  350  500  675 1000   95  175  250  350  500
## [76]  675 1000   95  175  250  350  500  675 1000
```

Excercise 3

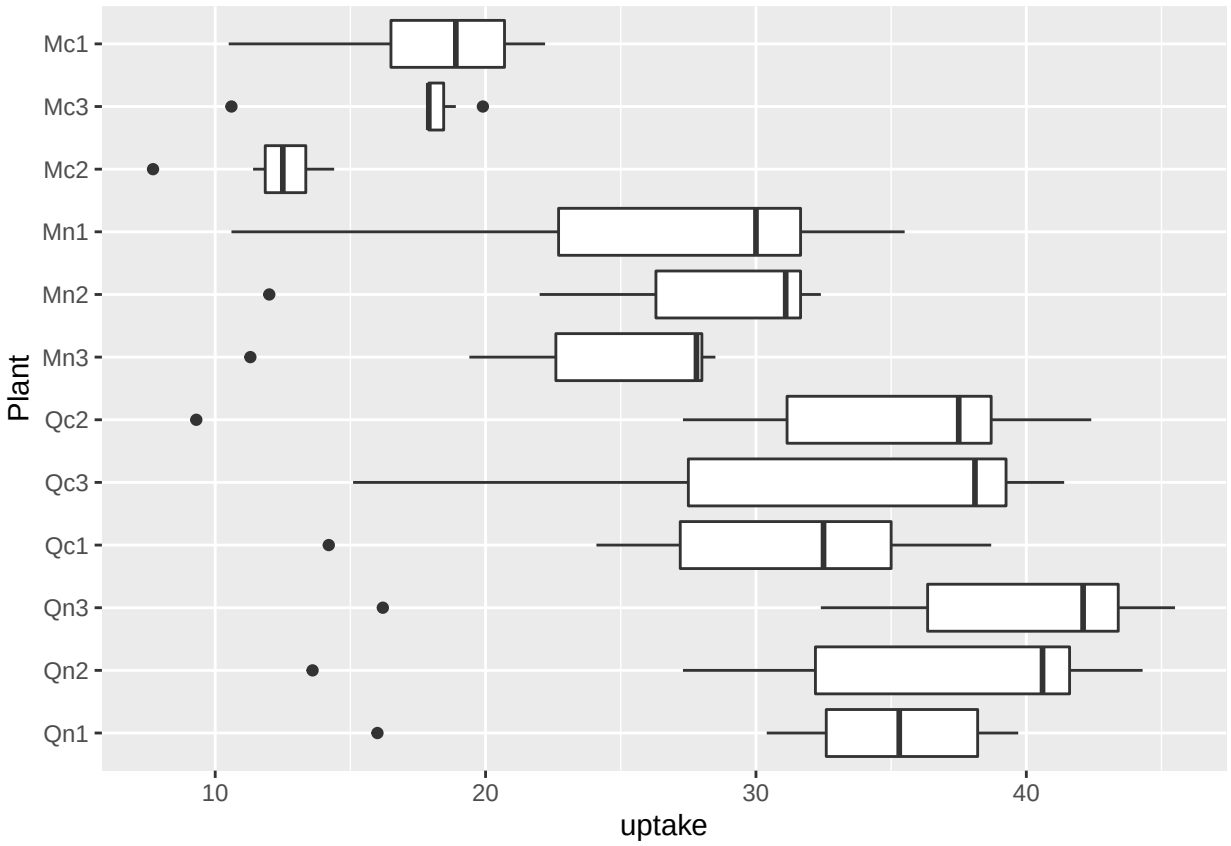
Q type plants have a higher maximum than M type plants. Additionally the uptake decreases when the plants are chilled

Excercise 4

```
ggplot(data = CO2, aes(x = Plant, y = uptake)) + geom_line()
```




```
ggplot(data = CO2, aes(x = uptake, y = Plant)) + geom_boxplot()
```


Mc1
Mc3
Mc2
Mn1
Mn2
Mn3
Qc2
Qc3
Qc1
Qn3
Qn2
Qn1
Plant
10
20
30
40
uptake