Sample R Markdown Document

Name

Date of lab session

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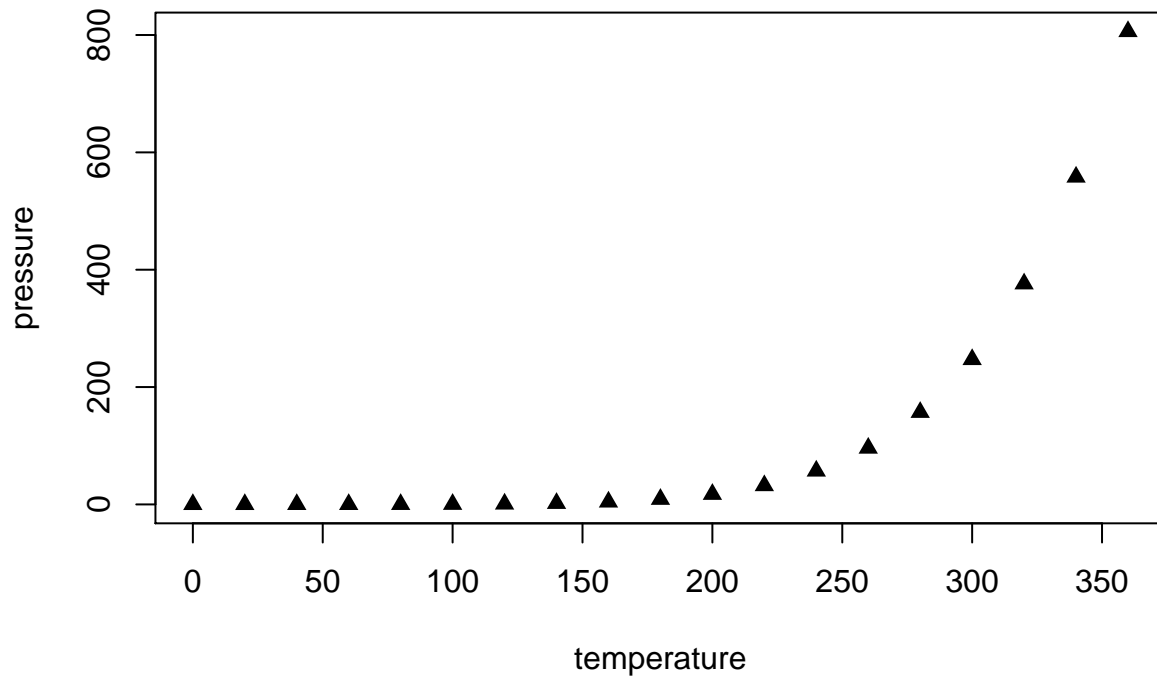
```r
summary(cars)
```
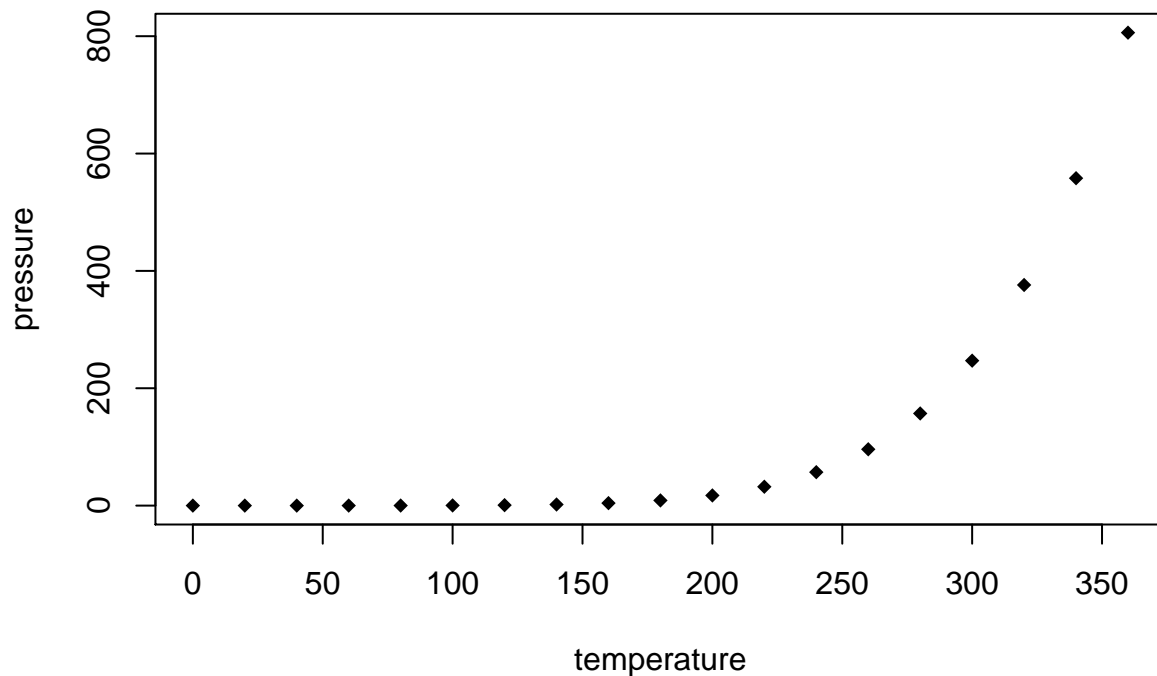
```
##      speed           dist
##  Min.   : 4.0   Min.   :  2.00
##  1st Qu.:12.0   1st Qu.: 26.00
##  Median :15.0   Median : 36.00
##  Mean   :15.4   Mean   : 42.98
##  3rd Qu.:19.0   3rd Qu.: 56.00
##  Max.   :25.0   Max.   :120.00
```

Including Plots

You can also embed plots, though you may need to resize to generate pleasing page breaks. You should leave a blank line above and below your code blocks.
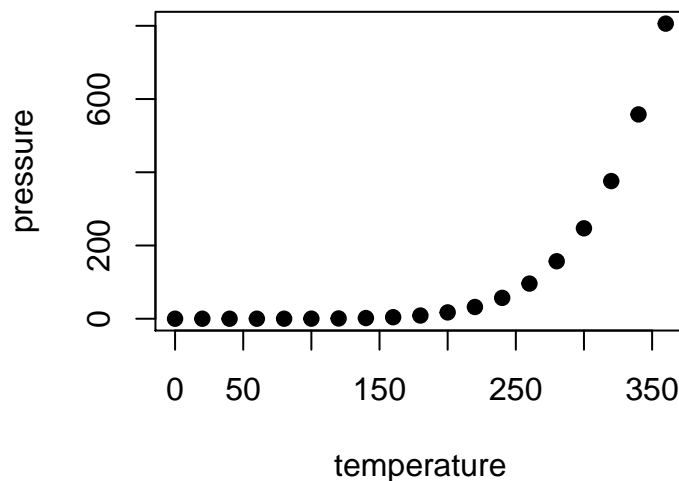
```r
plot(pressure,pch=17)
```

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

Resizing the image with fig.width and fig.height:

Try making this change to the first plot, and re-knitting.

You can also typeset formulas:

$$\bar{X} = \frac{1}{n}\sum_{i=1}^{n} X_i = (X_1 + X_2 + \ldots + X_n)/n$$

Assignment: Load the Cascadia Subduction Zone Quake data, and plot the magnitude (Mw) against the inter-event interval, that is the time elapsed since the previous quake.

```
Quakes <- read.table("http://people.reed.edu/~jones/Courses/Quakes.dat",
                     header=TRUE)
head(Quakes)
```

```
##   ID C14Age Segment   Mw
```

```
## 1  1    250     A 9.00
## 2  2    482     A 8.70
## 3 2a    550     D 8.19
## 4  3    798     A 8.87
## 5 3a   1077     C 8.34
## 6  4   1243     A 8.90
```

The C14Age is years before 1950, based on Carbon dating. To compute the inter-event intervals, use the diff() function. There will be one less interval than event, so you need to drop the last (40th event).

```
# note: labels have to be unique (we can't call this block CSZ again)
attach(Quakes)
Wait <- diff(C14Age)
Size <- Mw[-40]      # drop event number 40
```

Now, make some plots and edit the Rmd file to include just the CSZ portion to submit with your homework this Friday.