F179434_Birth rate analysis

Usama Bin Haider

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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:

```
download.file("https://cran.r-project.org/src/contrib/Archive/nutshell.audioscrobbler/nutshell.audioscr
download.file("https://cran.r-project.org/src/contrib/Archive/nutshell.bbdb/nutshell.bbdb_1.0.tar.gz",
download.file("https://cran.r-project.org/src/contrib/Archive/nutshell/nutshell_2.0.tar.gz", "nutshell_

install.packages("nutshell.audioscrobbler_1.0.tar.gz", repos = NULL)
```

```
## Installing package into 'C:/Users/Usama/Documents/R/win-library/4.1'
## (as 'lib' is unspecified)
```

```
install.packages("nutshell.bbdb_1.0.tar.gz", repos = NULL)
```

```
## Installing package into 'C:/Users/Usama/Documents/R/win-library/4.1'
## (as 'lib' is unspecified)
```

```
install.packages("nutshell_2.0.tar.gz", repos = NULL)
```

```
## Installing package into 'C:/Users/Usama/Documents/R/win-library/4.1'
## (as 'lib' is unspecified)
```

```
library(nutshell)
```

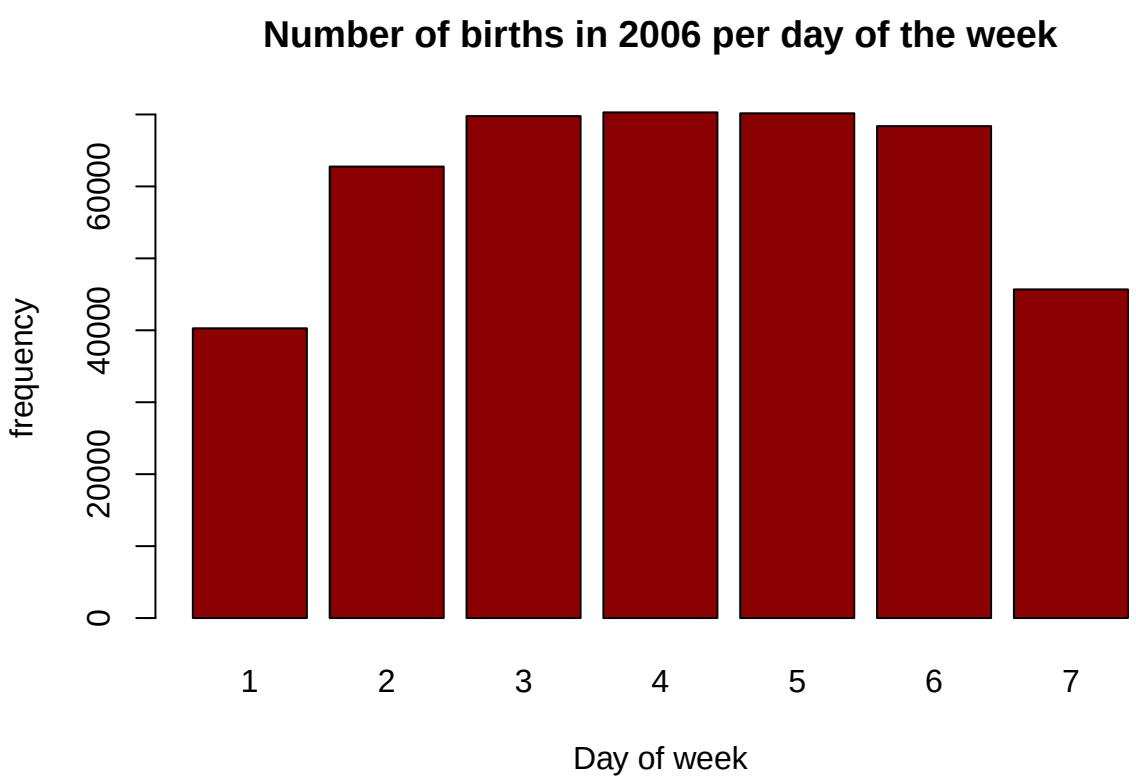
```
## Loading required package: nutshell.bbdb
```

```
## Loading required package: nutshell.audioscrobbler
```

```
data(births2006.smpl)

# First, list the data for the first 5 births.
head(births2006.smpl)
```

```
##         DOB_MM DOB_WK MAGER TBO_REC WTGAIN SEX APGAR5                  DMEDUC
## 591430       9      1    25       2     NA   F     NA                    NULL
## 1827276      2      6    28       2     26   M      9     2 years of college
## 1705673      2      2    18       2     25   F      9                    NULL
## 3368269     10      5    21       2      6   M      9                    NULL
## 2990253      7      7    25       1     36   M     10 2 years of high school
## 966967       3      3    28       3     35   M      8                    NULL
##         UPREVIS ESTGEST DMETH_REC  DPLURAL DBWT
## 591430       10      99   Vaginal 1 Single 3800
## 1827276      10      37   Vaginal 1 Single 3625
## 1705673      14      38   Vaginal 1 Single 3650
## 3368269      22      38   Vaginal 1 Single 3045
## 2990253      15      40   Vaginal 1 Single 3827
## 966967       18      39   Vaginal 1 Single 3090
```

```
# Next, show a bar chart of the frequencies of births according to the day of the week of the birth.
births.dayofweek = table(births2006.smpl$DOB_WK) #Goal of this variable is to speed up the calculations
barplot(births.dayofweek, ylab="frequency", xlab="Day of week", col = "darkred", main= "Number of births
```

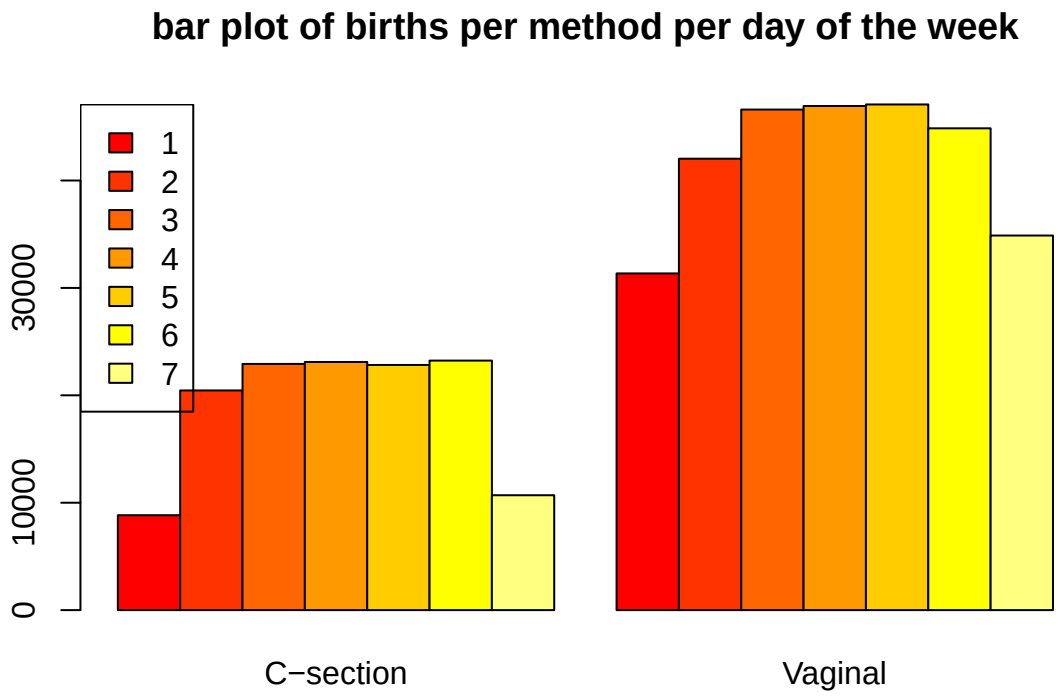



```
# Obtain frequencies for two-way classifications of birth according to the day of the week and the meth
births.methodsVdaysofweek = table(births2006.smpl$DOB_WK,births2006.smpl$DMETH_REC)
head(births.methodsVdaysofweek,7)
```

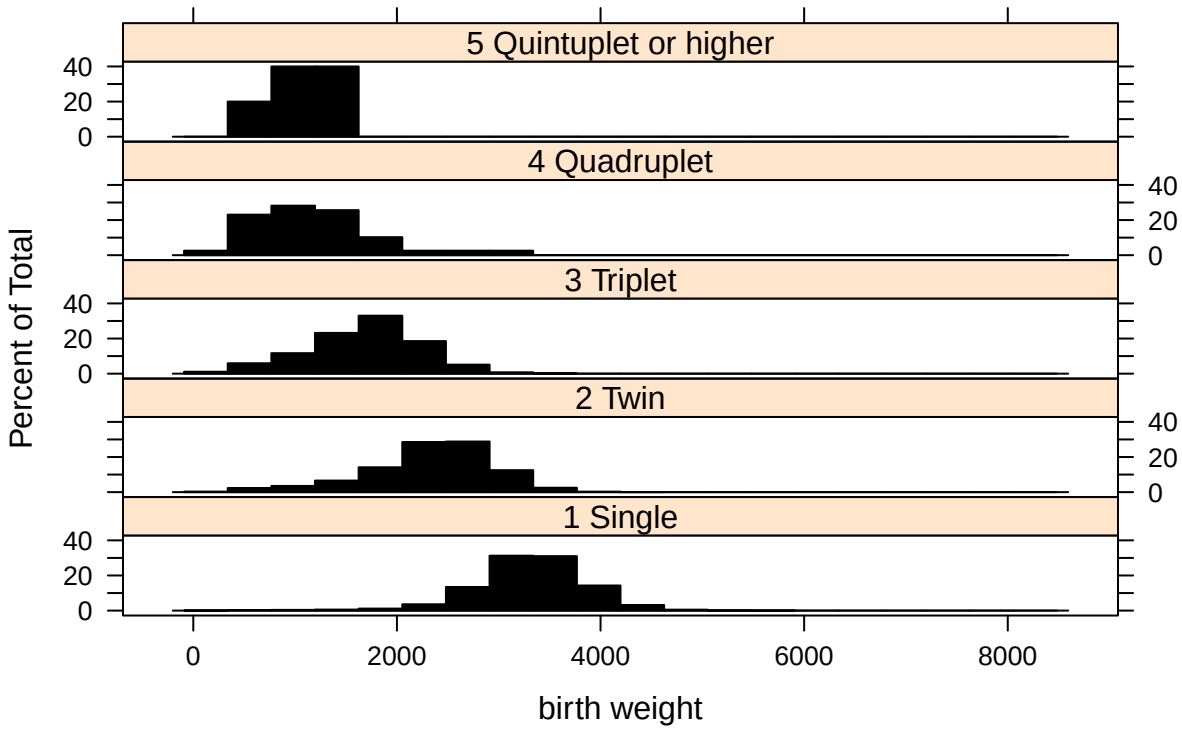
```
##
##      C-section Unknown Vaginal
```

```
##    1       8836       90    31348
##    2      20454      272    42031
##    3      22921      247    46607
##    4      23103      252    46935
##    5      22825      258    47081
##    6      23233      289    44858
##    7      10696      109    34878
```

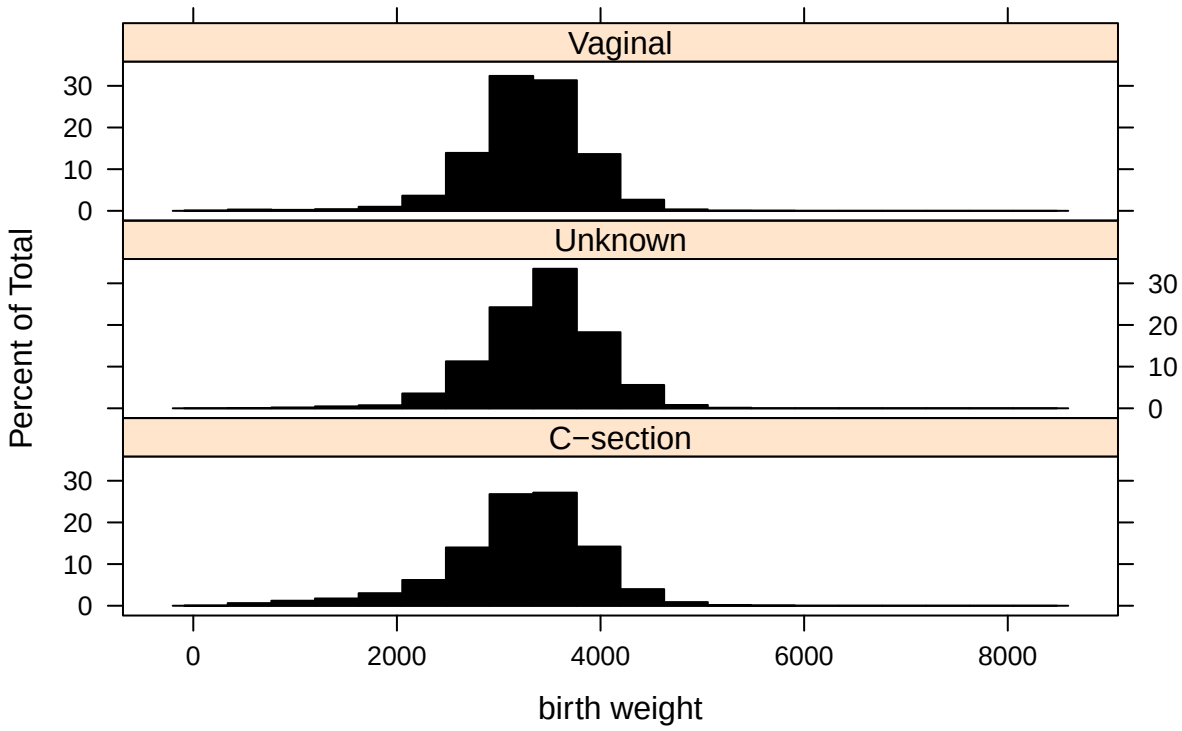
```
barplot(births.methodsVdaysofweek[,-2], col=heat.colors(length(rownames(births.methodsVdaysofweek))), wi
legend ("topleft", fill=heat.colors(length(rownames(births.methodsVdaysofweek))),legend=rownames(births

# Use lattice (trellis) graphs (R package lattice) to condition density histograms on the values of a t
library(lattice)
```



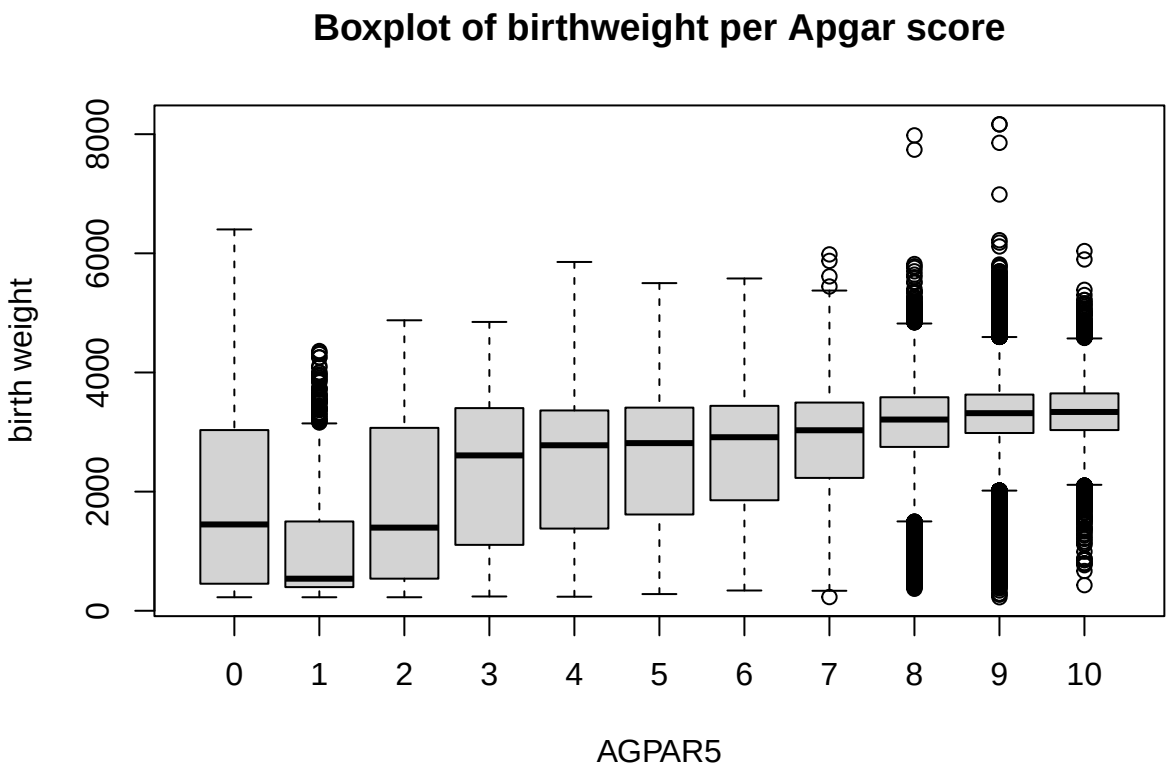

```
# The variable for multiple births and the method of delivery are conditioning variables.
# Separate the histogram of birth weight according to these variable.
histogram(~DBWT|DPLURAL,data=births2006.smpl,layout=c(1,5),col="black", xlab = "birth weight", main = "
```



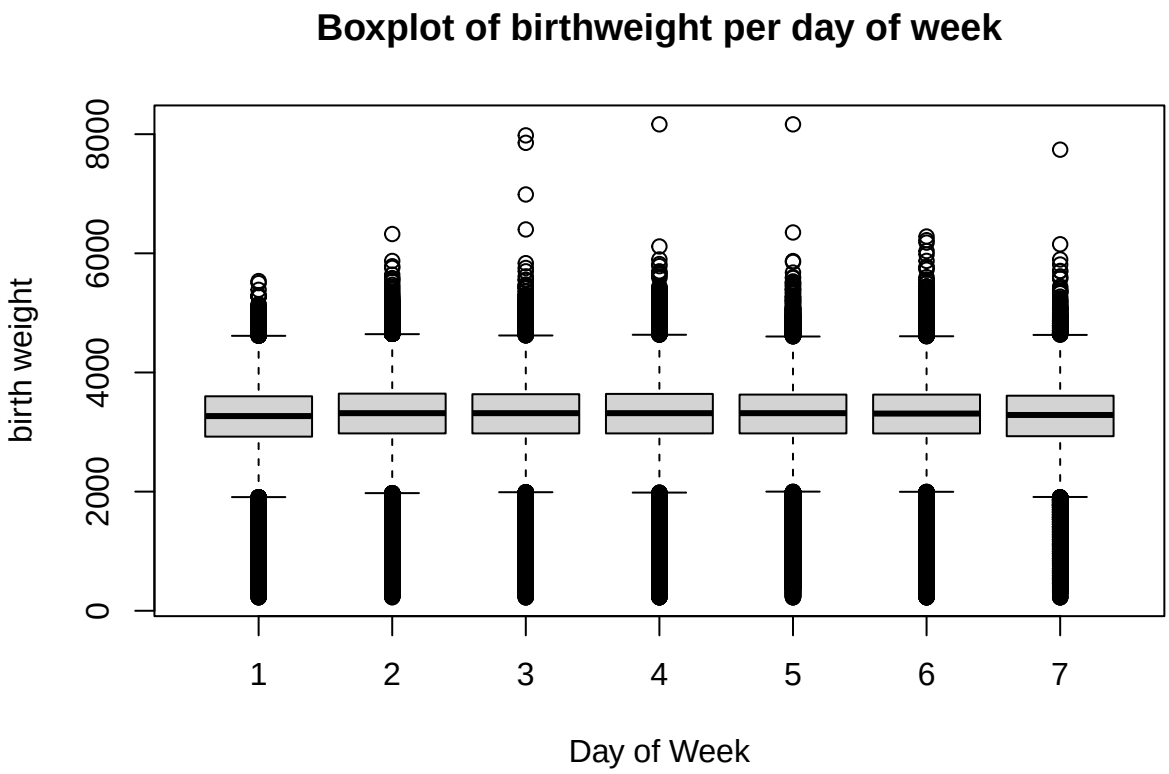

```
histogram(~DBWT|DMETH_REC,data=births2006.smpl,layout=c(1,3),col="black", xlab = "birth weight", main =
```



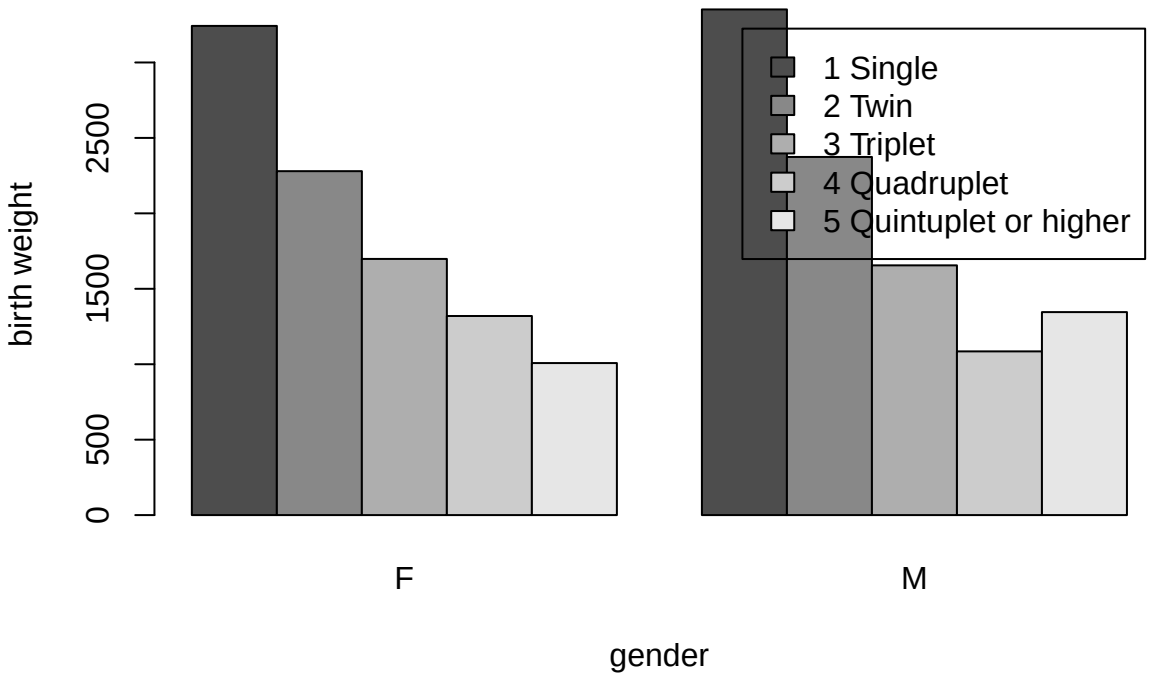

```
# Do a box plot of birth weight against Apgar score and box plots of birth weight by day of week of del
boxplot(DBWT~APGAR5,data=births2006.smpl,ylab="birth weight",xlab="AGPAR5", main="Boxplot of birthweigh
```




```
boxplot(DBWT~DOB_WK,data=births2006.smpl,ylab="birth weight",xlab="Day of Week", main="Boxplot of birthw
```




```
# Calculate the average birth weight as a function of multiple births for males and females separately.
# Use the "tapply" function, and for missing values use the "option nz.rm=TRUE."
listed = list(births2006.smpl$DPLURAL,births2006.smpl$SEX)
tapplication=tapply(births2006.smpl$DBWT,listed,mean,na.rm=TRUE)
barplot(tapplication,ylab="birth weight", beside=TRUE, legend=TRUE,xlab="gender", main = "bar plot of av
```

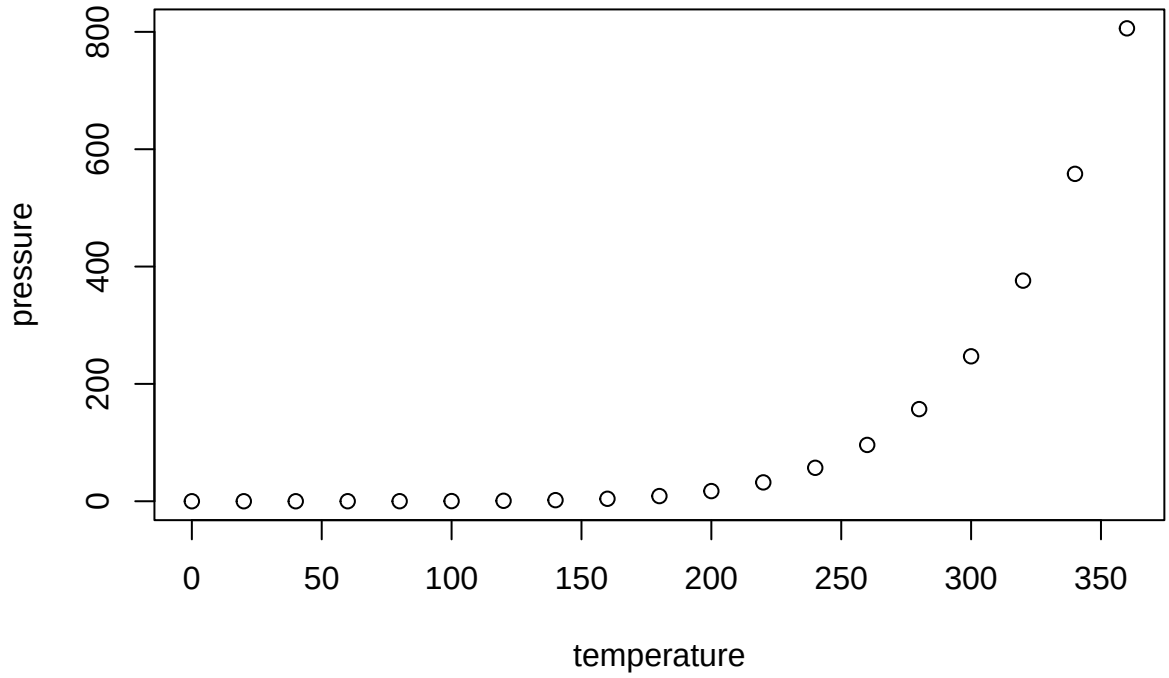



```
summary(cars)
```

```
##      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.