Homework 1

Aditya Dube

Tuesday, May 9, 2023

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.

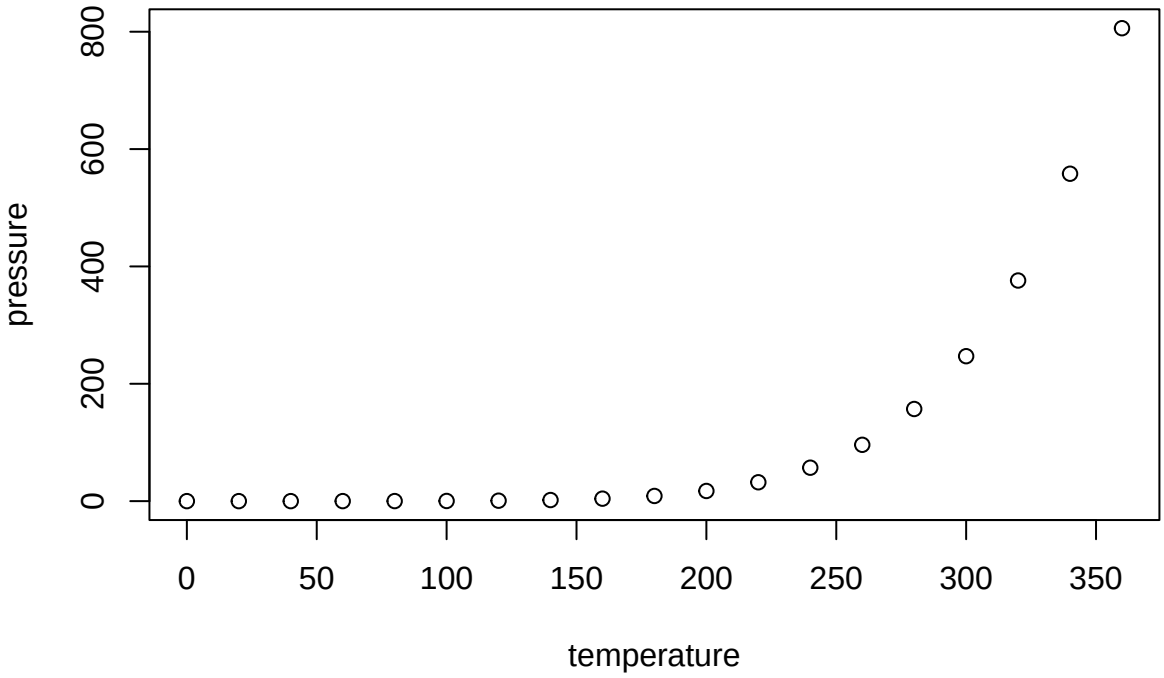
When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
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:



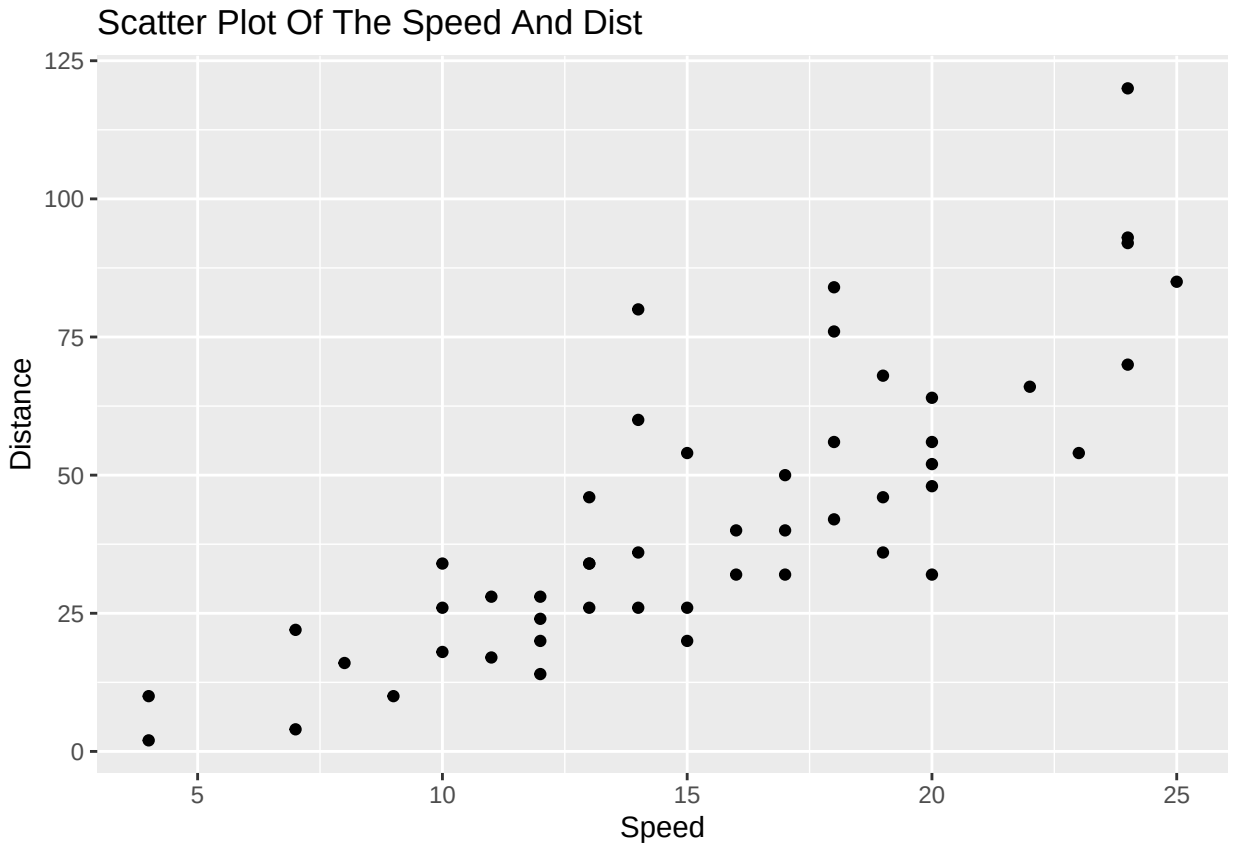
Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.

```
#Loading the tidyverse package
library(tidyverse)
```

```
## -- Attaching packages --------------------------------------- tidyverse 1.3.2 --
## v ggplot2 3.3.6     v purrr   0.3.4
## v tibble  3.1.8     v dplyr   1.0.9
## v tidyr   1.2.0     v stringr 1.4.1
## v readr   2.1.2     v forcats 0.5.2
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
```

```
#Loading the cars dataset
data(cars)

#Scatter Plot Code
ggplot(cars, aes(x=speed, y=dist)) +
  geom_point() +
  xlab("Speed")+
  ylab("Distance")+
  ggtitle("Scatter Plot Of The Speed And Dist")
```



In terms of direction, the scatter plot shows a positive relationship between the variables. As the speed of the car increases, the stopping distance also tends to increase, and vice versa.

In terms of linearity, the scatter plot shows that the relationship between speed and dist is approximately linear.

In terms of strength, the scatter plot shows a moderate to strong positive relationship between the variables.

In-Line Markdown

The cars dataset contains 50 rows and 2 variables.