# EXECUTIVE SUMMARY REPORT 1

Module 1 assignment

Abstract

In this assignment, I will create a summary of some data and learn how to use R

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Introduction

In this summary, I will use the data from Student.csv and use the APA system for the bibliography. Also, the R code that I used to process the data is available on my GitHub account.

A. A scatter plot of the Sales vs. temp data
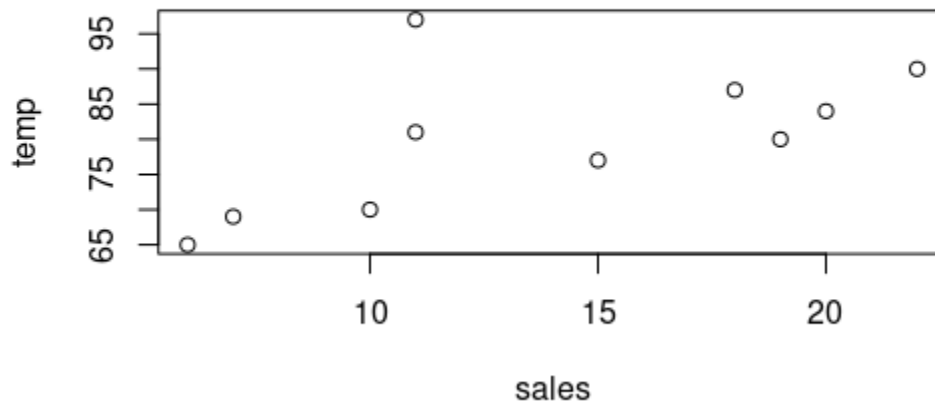
B. The mean temperature

According to a calculation done by R, the mean temperature is 80 degrees.

C. Display the data after steps 6 and 7
The sales vector will be 7 11 16 20 19 11 18 10 6 22

D. Display the names vector

The names vector is names <- c("Tom", "Dick", "Harry") and when I run the command print(names) is shows "Tom" "Dick" "Harry"

E. Display the five rows by two columns of 10 integers
The matrix will be :

```
      [,1] [,2]
[1,]    1    6
[2,]    2    7
[3,]    3    8
[4,]    4    9
[5,]    5   10
```

F. Display the icSales data frame
   The icSales data frame will look like this:

```
       sales temp
1        7    69
2       11    81
3       16    77
4       20    84
5       19    80
6       11    97
7       18    87
8       10    70
9        6    65
10      22    90
```

G. Display the summary of the icSales data frame
   Using summary(icSales), the following result can be found:

```
        sales                 temp
Min.    : 6.00    Min.    :65.00
1st Qu.:10.25    1st Qu.:71.75
Median :13.50    Median :80.50
Mean    :14.00    Mean    :80.00
3rd Qu.:18.75    3rd Qu.:86.25
Max.    :22.00    Max.    :97.00
```

H. Display the variables only from the Student.csv data set
   For doing this, the best command to use is str()

   When using str(Student) the following results will be generated by R:

```
$ StudentID     : num [1:4] 11 12 10 40
 $ First         : chr [1:4] "Bob" "Jane" "Dan" "Mary"
 $ Last          : chr [1:4] "Smith" "Weary" "Thornton, III" "O'Leary"
 $ Math          : num [1:4] 90 75 65 90
 $ Science       : num [1:4] 80 NA 75 95
 $ Social Studies: num [1:4] 67 80 70 92
```

I. A summary of the information you learned about the data sets based on the instructions you followed.
   What I mainly learned about data sets through these instructions is that it is straightforward to manipulate data with R . I mean, I have a good background in Python, and changing elements in data frames in python or even creating one is not accessible at all but doing these things with R is so easy.

Bibliography

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 Adding elements in a vector in R programming - append() method - GeeksforGeeks. (2020,
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programming-append-method/

Kabacoff, R. (2015). R in action : data analysis and graphics with R. Manning.

Appendix

My code is also available at https://github.com/momova97/ALY6000_movahedi

```r
print("Mohammad Hossein Movahedi")

install.packages("vcd")

library(vcd)

sales <- c(7,11,15,20,19,11,18,10,6,22)

temp <- c(69,81,77,84,80,97,87,70,65,90)

plot(sales,temp)

mean(temp)

sales <- sales[-3]

sales <- append(sales,16,2)

sales

names <- c("Tom", "Dick", "Harry")

print(names)

mat <- matrix(1:10, nrow=5, ncol=2)

mat

icSales <- data.frame(sales,temp)

icSales

str(icSales)

summary(icSales)

library(readr)

Student <- read_csv("Student.csv")

str(Student)
```