

QMM_ASSIGNMENT1_Q1

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#Load dataset packages

#import the excel file into the global environment

```
data <- read.csv('C:/Users/admin/Downloads/a1-cereals.csv')
```

#head and tail function

head(data)

```
##              Cereal Manufacturer Type Calories Protein Fat Sodium
Fiber
## 1 Apple Cinnamon Cheerios          G    C      110        2   2   180
1.5
## 2              Basic 4          G    C      130        3   2   210
2.0
## 3              Cheerios          G    C      110        6   2   290
2.0
## 4 Cinnamon Toast Crunch          G    C      120        1   3   210
0.0
## 5              Clusters          G    C      110        3   2   140
2.0
## 6              Cocoa Puffs          G    C      110        1   1   180
0.0
## Carbohydrates Sugars Shelf Potassium Vitamins Weight Cups
## 1          10.5      10     1         70       25    1.00 0.75
## 2          18.0       8     3        100       25    1.33 0.75
## 3          17.0       1     1        105       25    1.00 1.25
## 4          13.0       9     2         45       25    1.00 0.75
## 5          13.0       7     3        105       25    1.00 0.50
## 6          12.0      13     2         55       25    1.00 1.00
```

tail(data)

```
##              Cereal Manufacturer Type Calories Protein
Fat
## 72 Muesli Raisins, Peaches, & Pecans          R    C      150        4
3
## 73              Rice Chex          R    C      110        1
0
## 74              Wheat Chex          R    C      100        3
```

```

1
## 75                Maypo                A    H        100        4
1
## 76          Cream of Wheat (Quick)      N    H        100        3
0
## 77          Quaker Oatmeal              Q    H        100        5
2
##      Sodium Fiber Carbohydrates Sugars Shelf Potassium Vitamins Weight  Cups
## 72    150   3.0         16      11     3       170       25     -1 -1.00
## 73    240   0.0         23       2     1        30       25      1  1.13
## 74    230   3.0         17       3     1       115       25      1  0.67
## 75      0   0.0         16       3     2        95       25      1 -1.00
## 76     80   1.0         21       0     2        -1        0      1  1.00
## 77      0   2.7         -1      -1     1       110        0      1  0.67

```

#Working with functions for Stats

```

min(data$Fat)

## [1] 0

max(data$Fiber)

## [1] 14

range(data$Vitamins)

## [1]  0 100

mean(data$Weight)

## [1] 0.9776623

median(data$Protein)

## [1] 3

```

function will give the summary of data

```

summary(data)

##      Cereal      Manufacturer      Type      Calories
## Length:77      Length:77      Length:77      Min.   : 50.0
## Class :character Class :character Class :character 1st Qu.:100.0
## Mode  :character Mode  :character Mode  :character Median :110.0
##                                     Mean  :106.9
##                                     3rd Qu.:110.0
##                                     Max.   :160.0
##      Protein      Fat      Sodium      Fiber
## Min.   :1.000    Min.   :0.000    Min.   : 0.0    Min.   : 0.000
## 1st Qu.:2.000    1st Qu.:0.000    1st Qu.:130.0   1st Qu.: 1.000
## Median :3.000    Median :1.000    Median :180.0   Median : 2.000

```

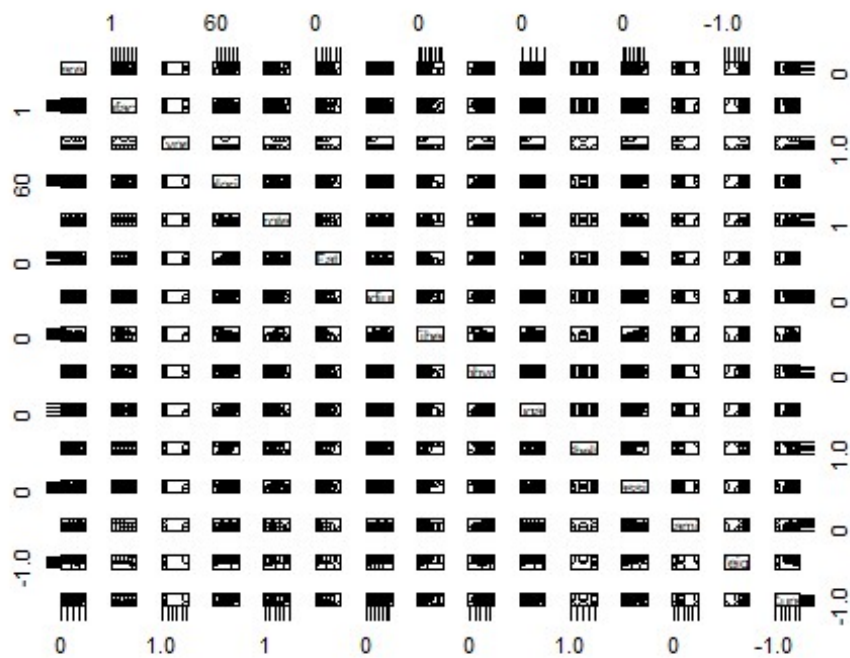
```
## Mean :2.545 Mean :1.013 Mean :159.7 Mean : 2.152
## 3rd Qu.:3.000 3rd Qu.:2.000 3rd Qu.:210.0 3rd Qu.: 3.000
## Max. :6.000 Max. :5.000 Max. :320.0 Max. :14.000
## Carbohydrates Sugars Shelf Potassium
## Min. :-1.0 Min. :-1.000 Min. :1.000 Min. : -1.00
## 1st Qu.:12.0 1st Qu.: 3.000 1st Qu.:1.000 1st Qu.: 40.00
## Median :14.0 Median : 7.000 Median :2.000 Median : 90.00
## Mean :14.6 Mean : 6.922 Mean :2.208 Mean : 96.08
## 3rd Qu.:17.0 3rd Qu.:11.000 3rd Qu.:3.000 3rd Qu.:120.00
## Max. :23.0 Max. :15.000 Max. :3.000 Max. :330.00
## Vitamins Weight Cups
## Min. : 0.00 Min. : -1.0000 Min. : -1.0000
## 1st Qu.: 25.00 1st Qu.: 1.0000 1st Qu.: 0.5000
## Median : 25.00 Median : 1.0000 Median : 0.7500
## Mean : 28.25 Mean : 0.9777 Mean : 0.5873
## 3rd Qu.: 25.00 3rd Qu.: 1.0000 3rd Qu.: 1.0000
## Max. :100.00 Max. : 1.5000 Max. : 1.5000
```

#str function will structure the data

str(data)

```
## 'data.frame': 77 obs. of 15 variables:
## $ Cereal : chr "Apple Cinnamon Cheerios" "Basic 4" "Cheerios"
## "Cinnamon Toast Crunch" ...
## $ Manufacturer : chr "G" "G" "G" "G" ...
## $ Type : chr "C" "C" "C" "C" ...
## $ Calories : int 110 130 110 120 110 110 110 100 110 110 ...
## $ Protein : int 2 3 6 1 3 1 1 2 1 3 ...
## $ Fat : int 2 2 2 3 2 1 1 1 1 1 ...
## $ Sodium : int 180 210 290 210 140 180 180 140 280 250 ...
## $ Fiber : num 1.5 2 2 0 2 0 0 2 0 1.5 ...
## $ Carbohydrates: num 10.5 18 17 13 13 12 12 11 15 11.5 ...
## $ Sugars : int 10 8 1 9 7 13 13 10 9 10 ...
## $ Shelf : int 1 3 1 2 3 2 2 3 2 1 ...
## $ Potassium : int 70 100 105 45 105 55 65 120 45 90 ...
## $ Vitamins : int 25 25 25 25 25 25 25 25 25 ...
## $ Weight : num 1 1.33 1 1 1 1 1 1 1 1 ...
## $ Cups : num 0.75 0.75 1.25 0.75 0.5 1 1 0.75 0.75 0.75 ...
```

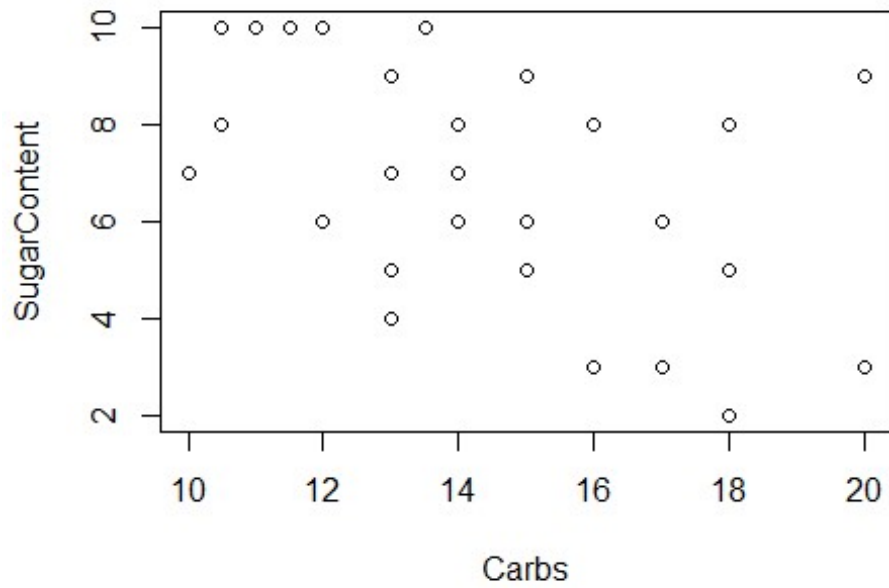
plot(data)



#X-Y plot for two quantitative variables(Scatterplot)

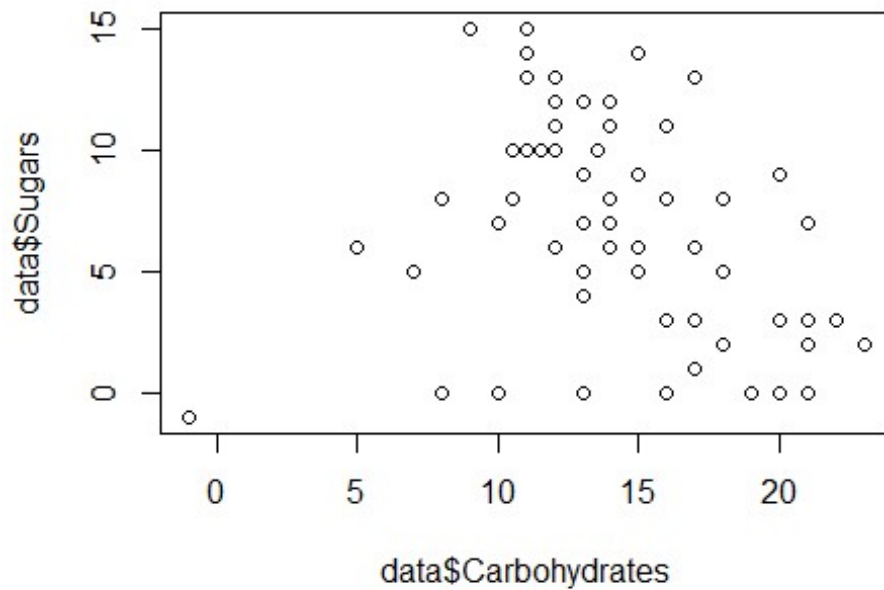
```
plot(x= data$Carbohydrates, y=data$Sugars,
     xlab = "Carbs",
     ylab = "SugarContent",
     xlim = c(10,20),
     ylim = c(2,10),
     main = "Carbs with Sugars")
```

Carbs with Sugars



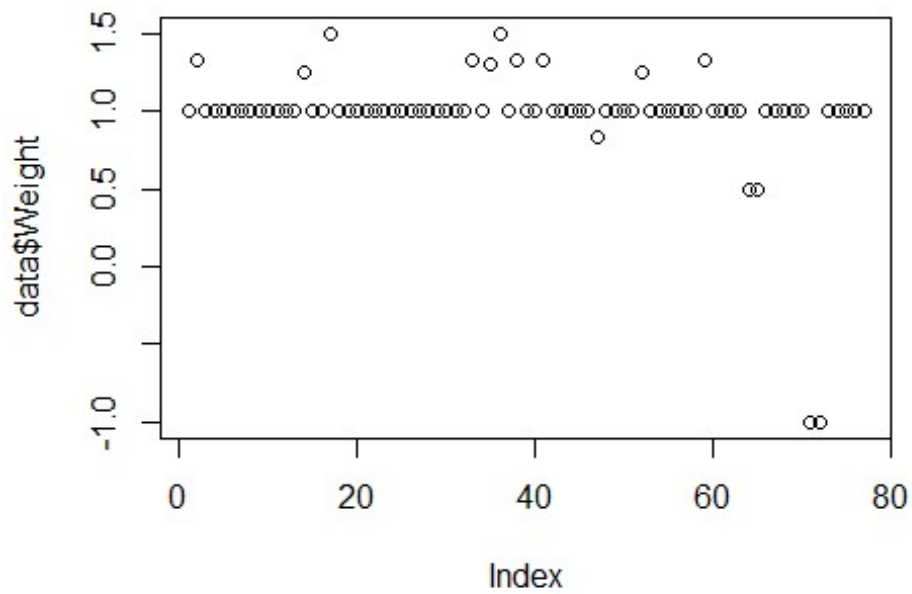
#Add some Options

```
plot(data$Carbohydrates, data$Sugars)
```



#Plotting a quantitative variable Audience_Size

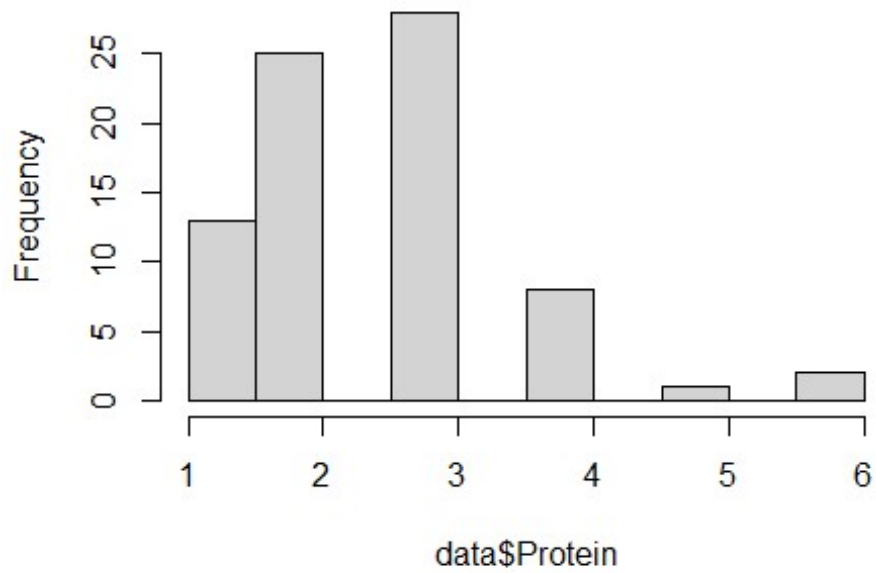
```
plot(data$Weight)
```



#LineplotHistogram,Boxplot

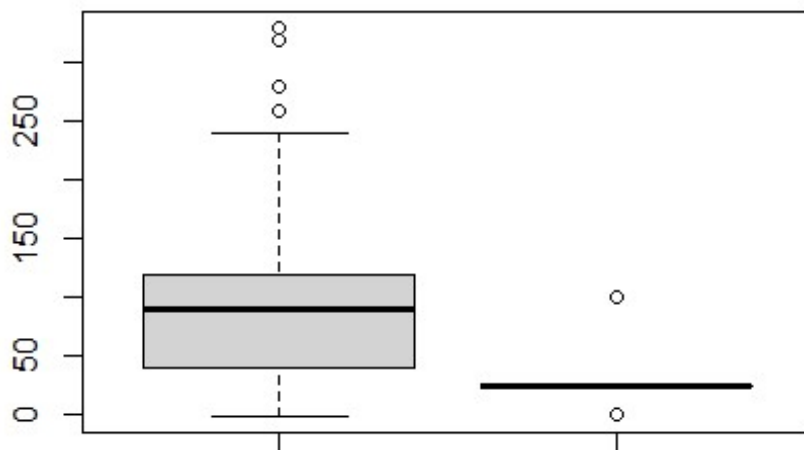
```
hist(data$Protein,main = "HISTOGRAM")
```

HISTOGRAM

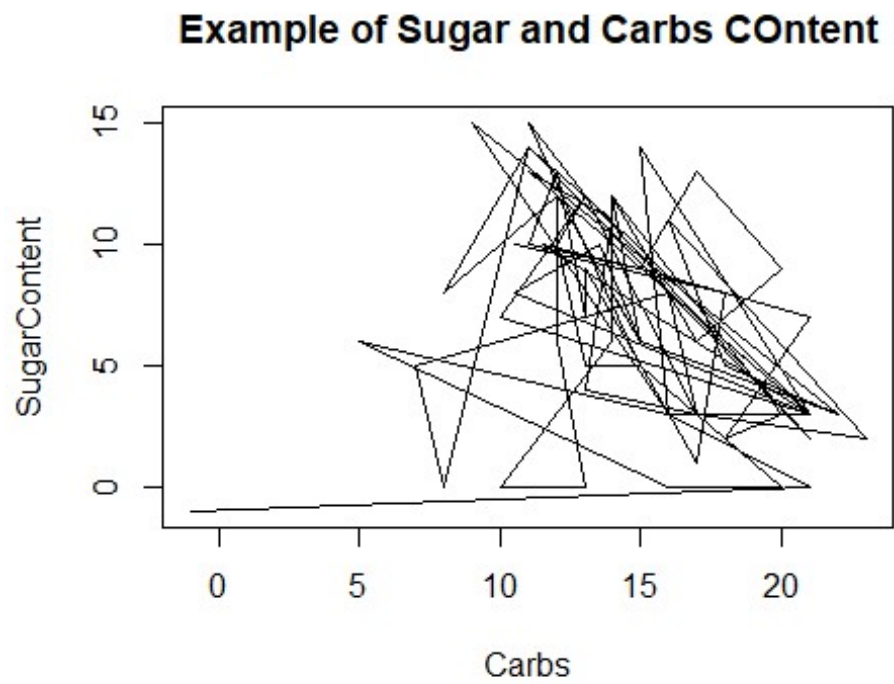


```
boxplot(data$Potassium,data$Vitamins,main="BOXPLOT")
```

BOXPLOT



```
plot(x= data$Carbohydrates, y=data$Sugars,  
     xlab = "Carbs",  
     ylab = "SugarContent",  
     type="l",main="Example of Sugar and Carbs COntent")
```



#The End