R Programming (Plotting data)

> data() – to know the RStudio datasets

> ChickWeight

```
   weight Time Chick Diet
1      42    0     1    1
2      51    2     1    1
3      59    4     1    1
4      64    6     1    1
5      76    8     1    1
6      93   10     1    1
7     106   12     1    1
8     125   14     1    1
9     149   16     1    1
10    171   18     1    1
11    199   20     1    1.....
[ reached 'max' / getOption("max.print") -- omitted 328 rows ]
```

> class(ChickWeight)

```
[1] "nfnGroupedData" "nfGroupedData"  "groupedData"    "data.frame"
```

> chick.df <- ChickWeight

> chick.df

```
   weight Time Chick Diet
1      42    0     1    1
2      51    2     1    1
3      59    4     1    1
4      64    6     1    1
5      76    8     1    1
6      93   10     1    1
7     106   12     1    1
8     125   14     1    1
9     149   16     1    1
```

```
10    171   18    1    1.............
[ reached 'max' / getOption("max.print") -- omitted 328 rows ]

> table(chick.df[,3])
18 16 15 13  9 20 10  8 17 19  4  6 11  3  1 12  2  5 14  7 24 30 22 23 27 28 26 25 29 21
 2  7  8 12 12 12 12 11 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12
33 37 36 31 39 38 32 40 34 35 44 45 43 41 47 49 46 50 42 48
12 12 12 12 12 12 12 12 12 12 10 12 12 12 12 12 12 12 12 12

> table(chick.df[,4])
  1   2   3   4
220 120 120 118

> sort( table(chick.df[,3]))
18 16 15 44  8 13  9 20 10 17 19  4  6 11  3  1 12  2  5 14  7 24 30 22 23 27 28 26 25 29
 2  7  8 10 11 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12
21 33 37 36 31 39 38 32 40 34 35 45 43 41 47 49 46 50 42 48
12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12 12

> names(ChickWeight)
[1] "weight" "Time"   "Chick"  "Diet"

> summary(ChickWeight)
    weight         Time         Chick     Diet
 Min.   : 35.0   Min.   : 0.00   13    : 12   1:220
 1st Qu.: 63.0   1st Qu.: 4.00   9     : 12   2:120
 Median :103.0   Median :10.00   20    : 12   3:120
 Mean   :121.8   Mean   :10.72   10    : 12   4:118
 3rd Qu.:163.8   3rd Qu.:16.00   17    : 12
 Max.   :373.0   Max.   :21.00   19    : 12
                                 (Other):506
```

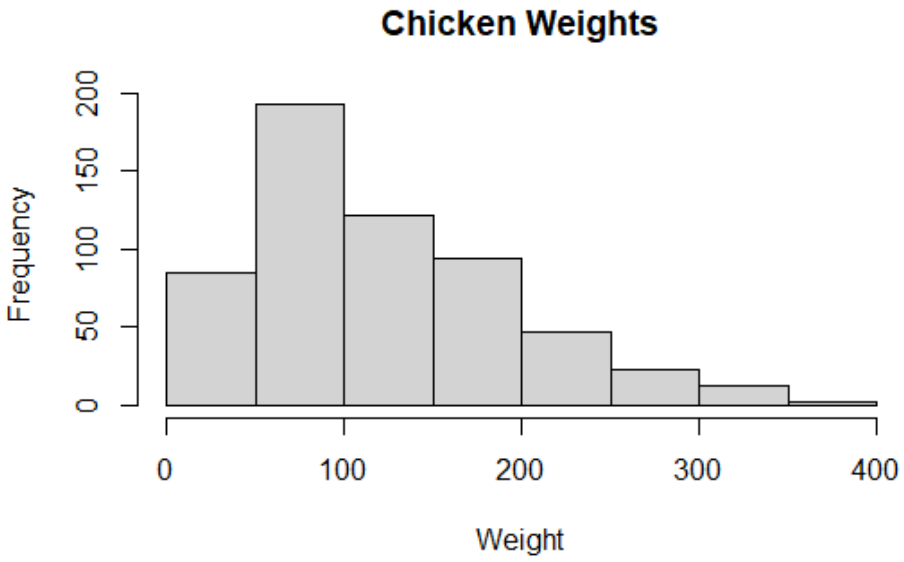
PLOTS

1. Histogram

> hist(ChickWeight$weight)

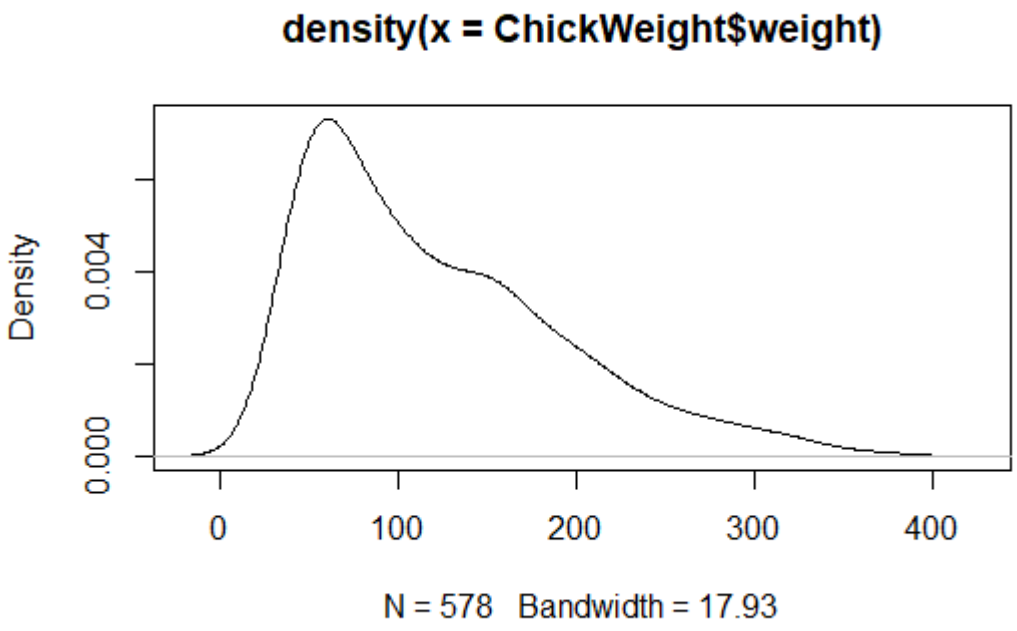
```
>hist(ChickWeight$weight, xlab="Weight", ylab= "Frequency", main="Chicken
Weights")
```


```
>hist(ChickWeight$weight, xlab="Weight", ylab= "Frequency", main="Chicken
Weights")
```



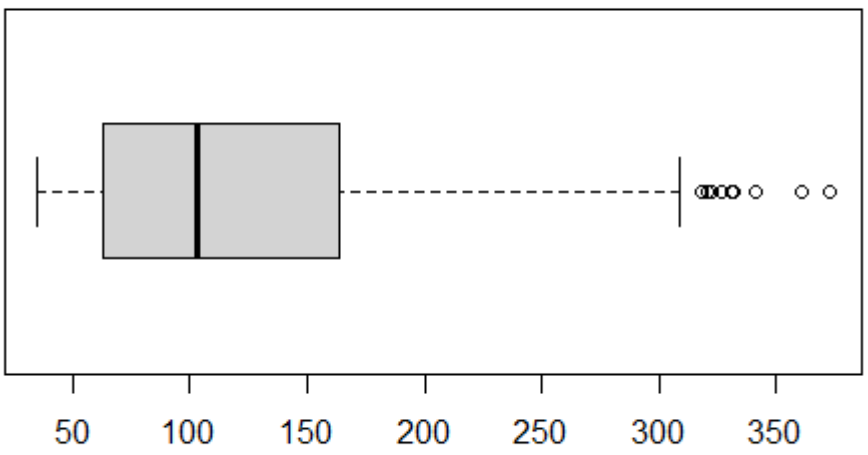
2. Density Plot

```
>plot(density(ChickWeight$weight))
```



3. Box Plot (for one continuous variable)

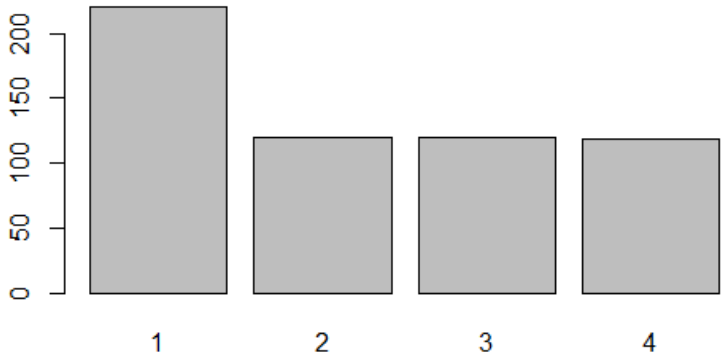
```
>boxplot(ChickWeight$weight, horizontal = TRUE)
```



Understanding a Single Discrete Variable

4. Bar Chart

```
> plot(ChickWeight$Diet)
```

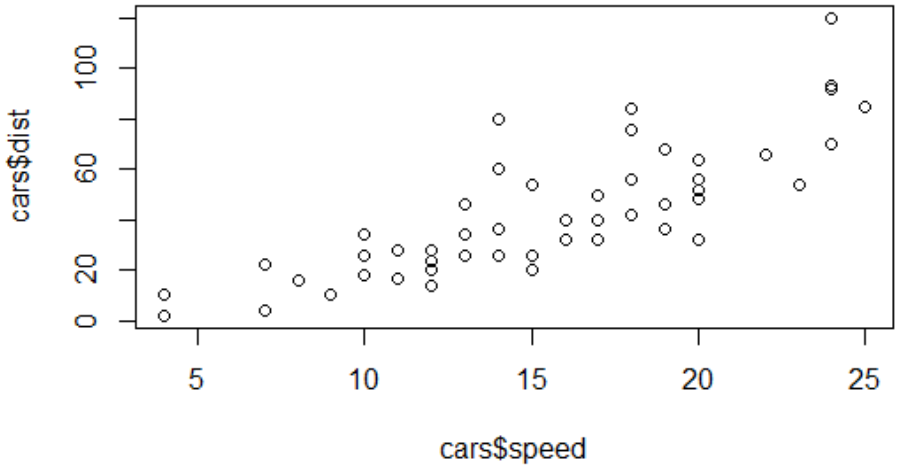


Understanding a two Variable - Continuous X, Continuous Y

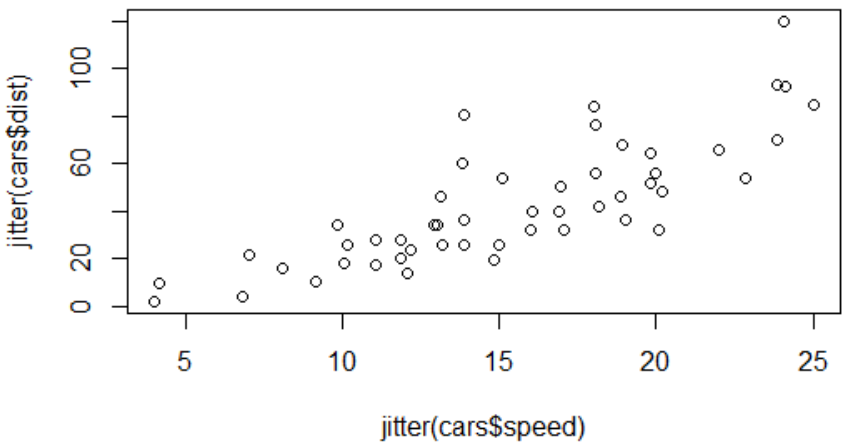
5. Scatter Plot

Cars Dataset

```
> plot(cars$speed, cars$dist)
```



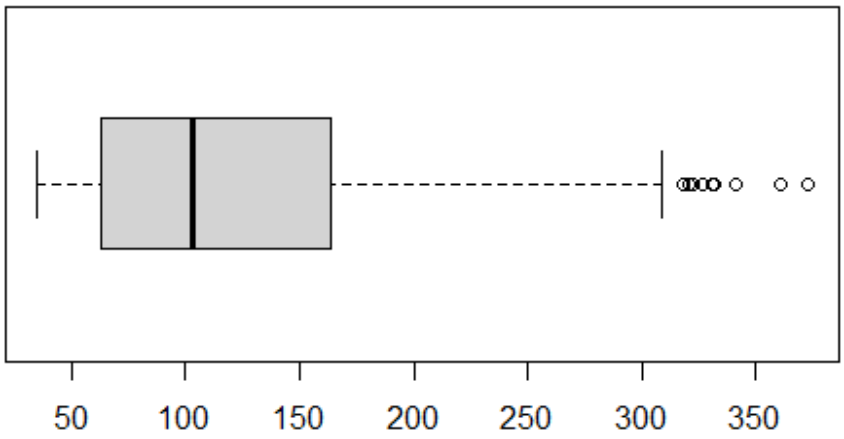
```
> plot(jitter(cars$speed), jitter(cars$dist))
```



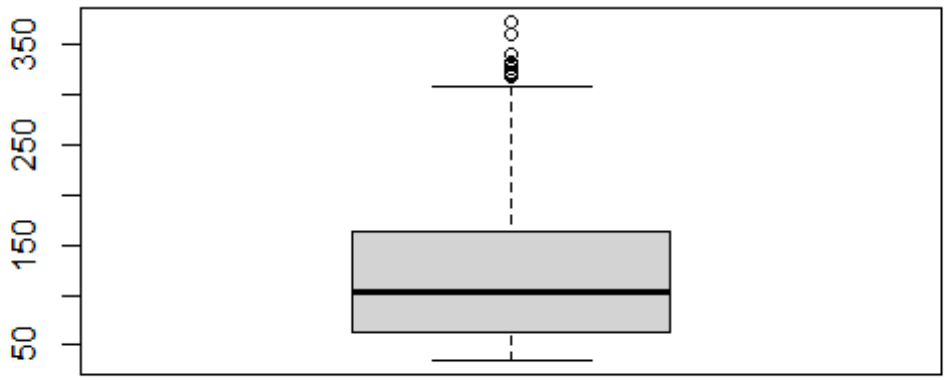
Understanding a two Variable - One Discrete , One Continuous

6. Box Plot

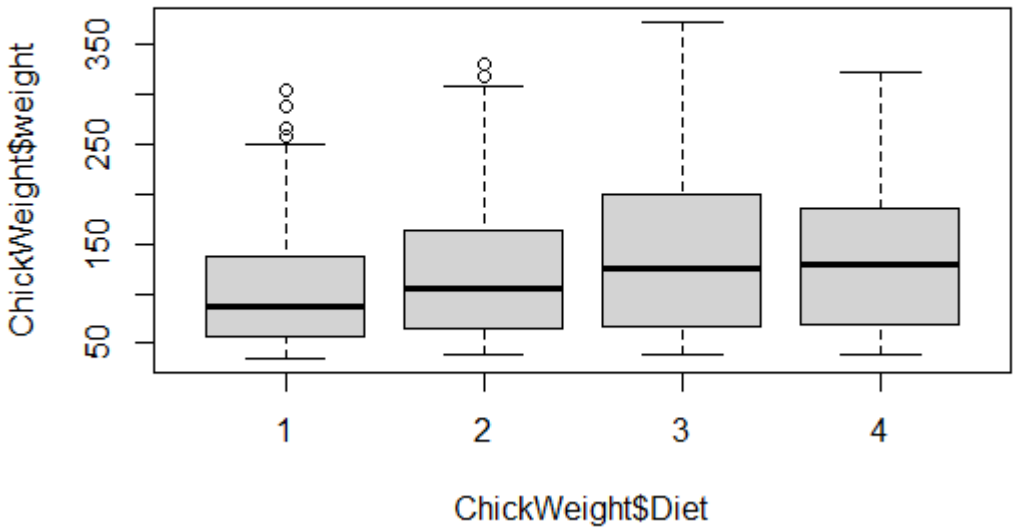
```
> boxplot(ChickWeight$weight, horizontal = TRUE)
```



```
> boxplot(ChickWeight$weight)
```

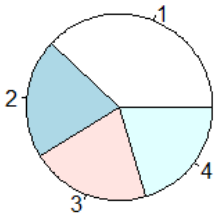



```
> boxplot(ChickWeight$weight ~ ChickWeight$Diet)
```

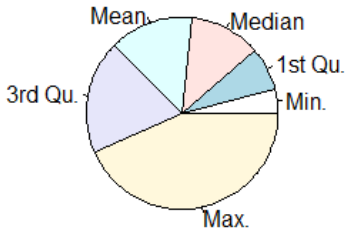


7.Pie Chart

```
summary(chick.df[,4])
  1   2   3   4
220 120 120 118
> diet <- summary(chick.df[,4])
> diet
  1   2   3   4
220 120 120 118
> pie(diet)
```

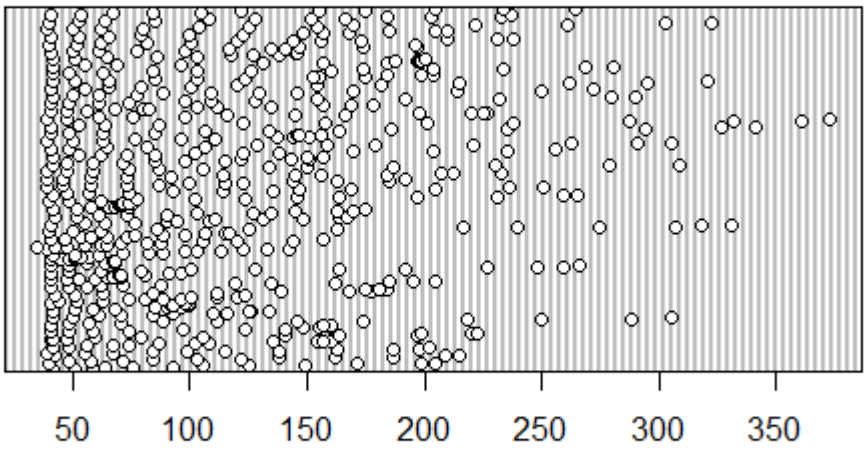



```
> weight <- summary(ChickWeight$weight)
> weight
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
   35.0    63.0   103.0   121.8   163.8   373.0
> pie(weight)
```



8. Dot Chart

```
> dotchart(chickweight$weight)
```



R Script

```
bakerysalesTable <- read.table("C://Users//Swathy//SRM//ODD_2024//Fast_Tra
ck//Datasets//sales.csv",header = FALSE, sep = ",")
bs.df <- data.frame(bakerysalesTable)
c <- 0
for(i in 2:nrow(bs.df))
{
  if (bs.df[i,5] == 'CROISSANT')
  {
    c <- c + 1
  }
}
print(c)
```

```
bakerysalesTable <- read.table("C://Users//Swathy//SRM//ODD_2024//Fast_Tra
ck//Datasets//sales.csv",header = FALSE, sep = ",")
bs.df <- data.frame(bakerysalesTable)
bs1.df <- data.frame()
j <- 1
for(i in 2:nrow(bakerysalesTable))
{
  TP <- 1
  Q <- as.numeric(as.character(bakerysalesTable[i,6]))
  UP <- as.numeric(as.character(bakerysalesTable[i,7]))
  TP <- Q*UP
  bs1.df[j,1] <- format(TP,digits=2)
  j=j+1
}
write.csv(bs1.df,file="C://Users//Swathy//SRM//ODD_2024//Fast_Track//Datas
ets//Bakerysales.txt", quote = FALSE, row.names = FALSE)
```