Practical 3

Aim : Program for basic statistics (mean median mode variance standard deviation range and summary)

Output :

View(cars) :

	speed	dist
1	4	2
2	4	10
3	7	4
4	7	22
5	8	16
6	9	10
7	10	18

Mean :

```
> mean(cars$speed)
[1] 15.4
> mean(cars$dist)
[1] 42.98
```

Median :

```
> median(cars$speed)
[1] 15
> median(cars$dist)
[1] 36
```

Mode :

```
#user defined function for mode :
Mode <- function(x){
   table(which.max(table(x)))
}

Mode(cars$dist)
Mode(cars$speed)
```

```
> Mode(cars$dist)

11
 1
> Mode(cars$speed)

15
 1
> |
```

Sum :

```
> sum(cars$dist)
[1] 2149
> sum(cars$speed)
[1] 770
```

Summary :

```
> 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
> summary(cars$speed)
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
    4.0    12.0    15.0    15.4    19.0    25.0
```

Variance :

```
> var(cars$speed)
[1] 27.95918
> var(cars$dist)
[1] 664.0608
```

Standard Deviation :

```
> sd(cars$speed)
[1] 5.287644
> sd(cars$dist)
[1] 25.76938
```

```
> sqrt(var(cars$speed))
[1] 5.287644
> sqrt(var(cars$dist))
[1] 25.76938
```

Range :

```
> range(cars$speed)
[1]  4 25
> range(cars$dist)
[1]   2 120
```

Skewness and Kurtosis :

```
> skewness(cars$dist)
[1] 0.7824835
> skewness(cars$speed)
[1] -0.1139548
>
> kurtosis(cars$speed)
[1] 2.422853
> kurtosis(cars$dist)
[1] 3.248019
```