BT307 LAB 2

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Roll No.: 210106004

1)

2)

```
  Product Age Gender Education MaritalStatus Usage Fitness Income Miles
1   TM195  18   Male        14        Single     3       4  29562   112
2   TM195  19   Male        15        Single     2       3  31836    75
3   TM195  19 Female        14     Partnered     4       3  30699    66
4   TM195  19   Male        12        Single     3       3  32973    85
5   TM195  20   Male        13     Partnered     4       2  35247    47
6   TM195  20 Female        14     Partnered     3       3  32973    66
```
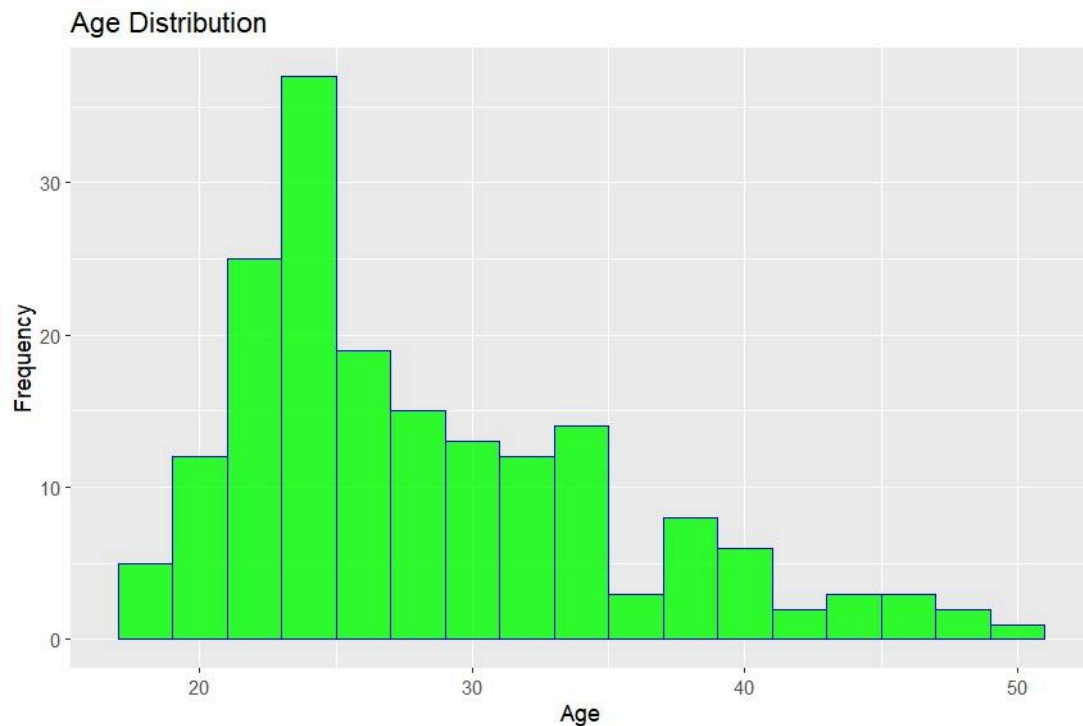
3)

```
     Product Age Gender Education MaritalStatus Usage Fitness Income Miles
175   TM798  38   Male        18     Partnered     5       5 104581   150
176   TM798  40   Male        21        Single     6       5  83416   200
177   TM798  42   Male        18        Single     5       4  89641   200
178   TM798  45   Male        16        Single     5       5  90886   160
179   TM798  47   Male        18     Partnered     4       5 104581   120
180   TM798  48   Male        18     Partnered     4       5  95508   180
```
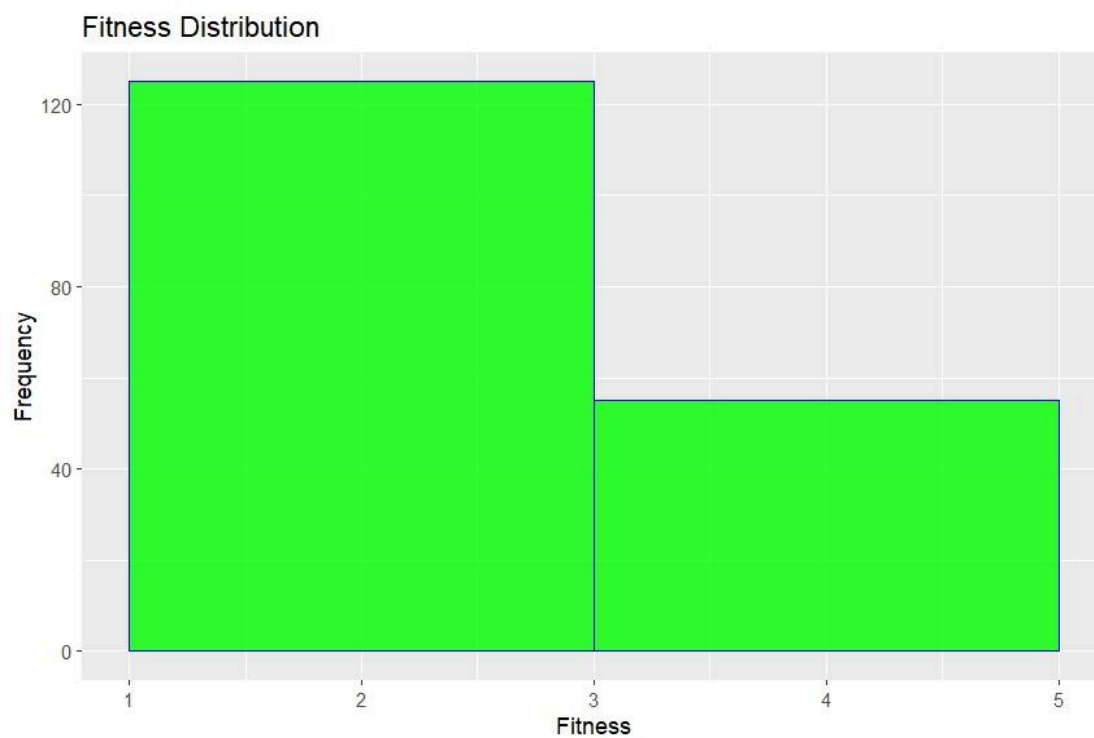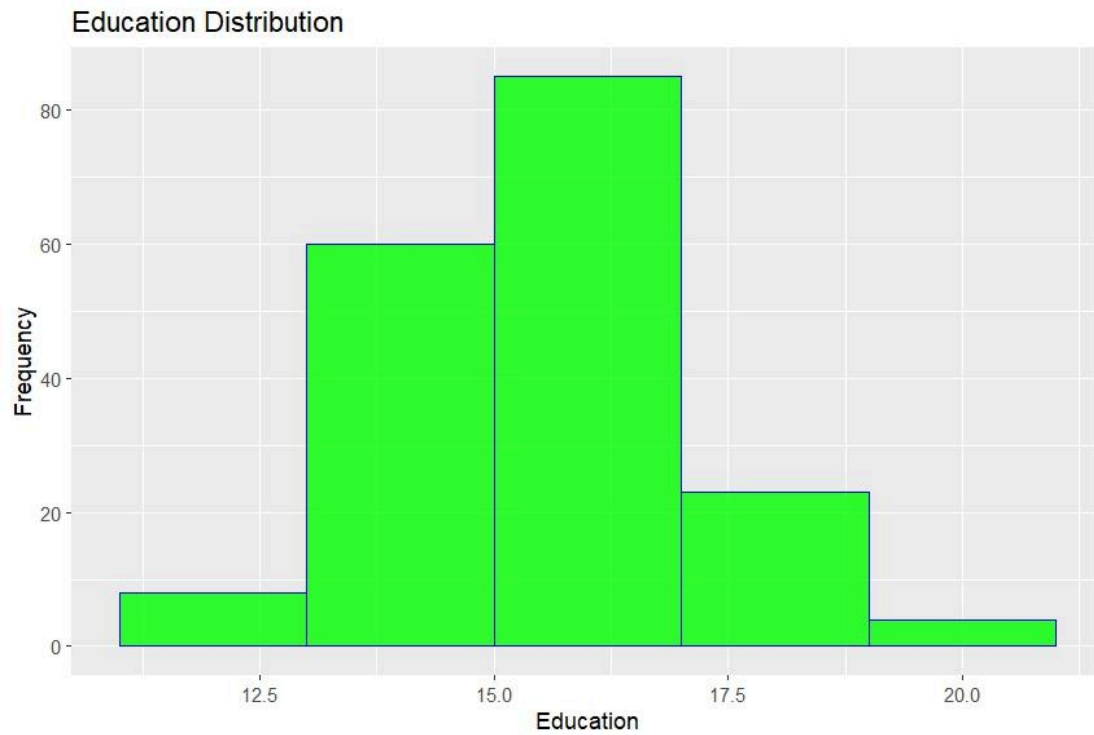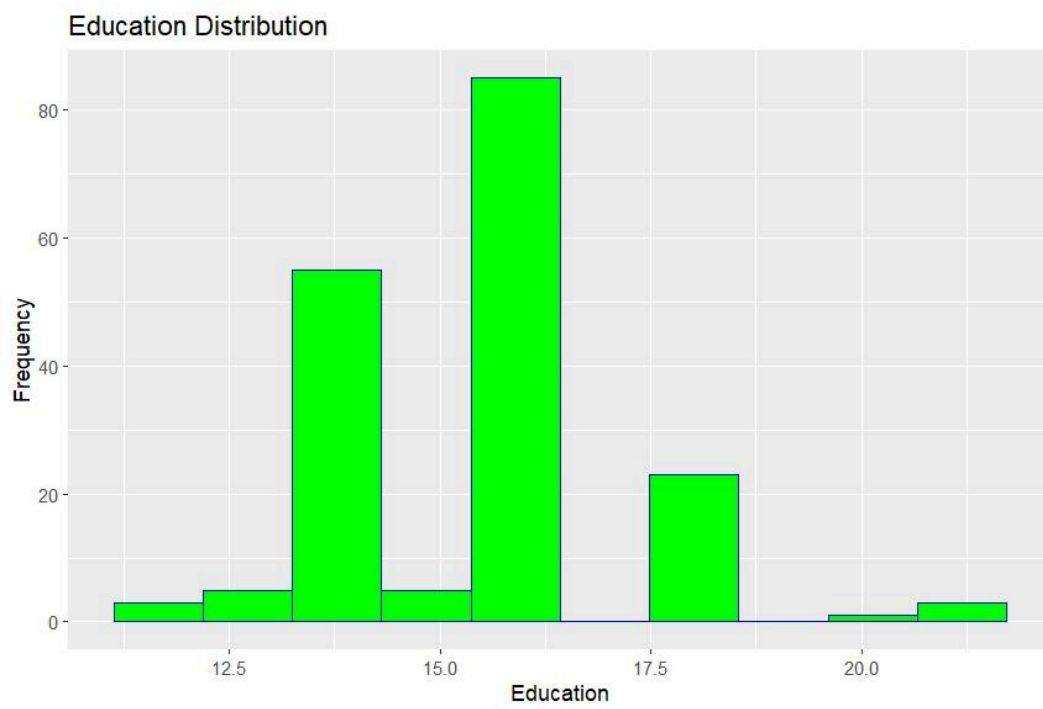
4)
5)

Age Distribution

Education Distribution

Fitness Distribution

6)
```
Number of bins:  8.492015
Bin size age:  3.768246
Bin size education:  1.059819
Bin size fitness:  0.4710307
```

7)

Age Distribution

Education Distribution

Fitness Distribution
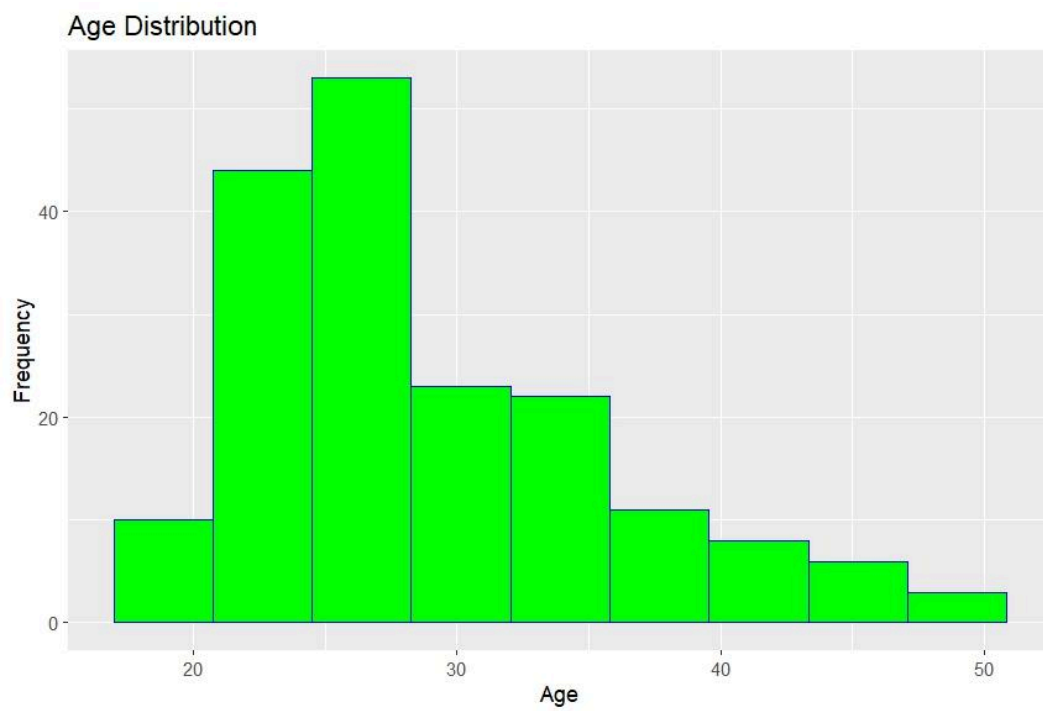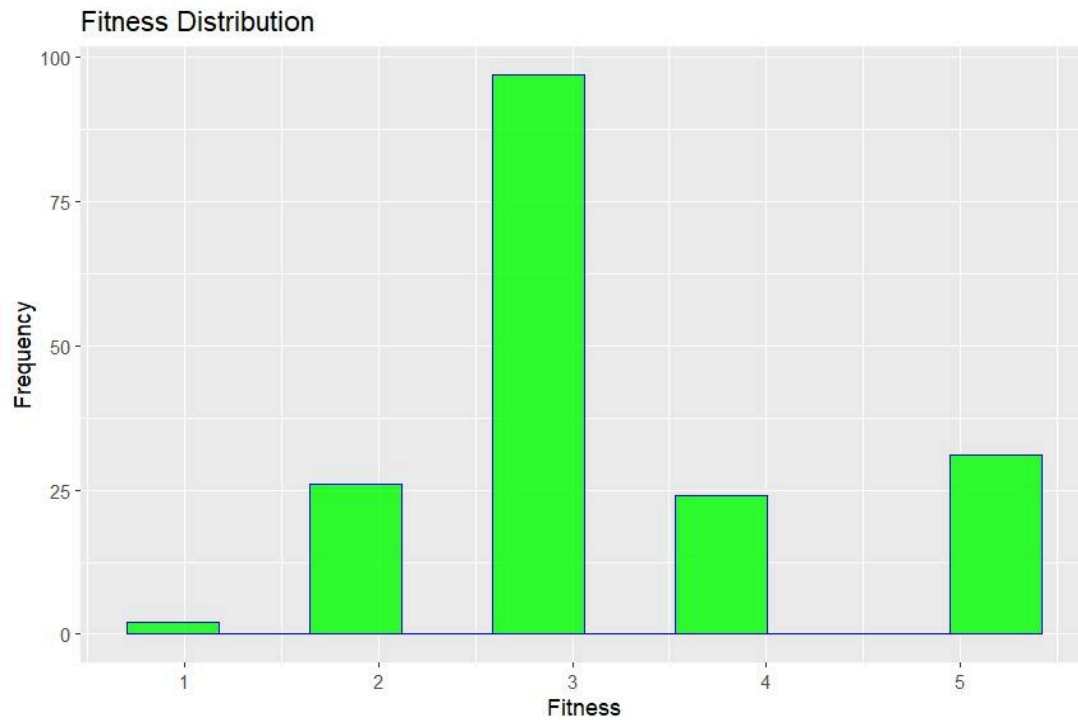
8)

9)
```
[1] "Mean of age: 28.7888888888889"
[1] "Mean of education: 15.5722222222222"
[1] "Mean of fitness: 3.31111111111111"
```

10)

11)
```
[1] "Median of age: 26"
[1] "Median of education: 16"
[1] "Median of fitness: 3"
```

12)

13)
```
[1] "Mode of age: 25"
[1] "Mode of education: 16"
[1] "Mode of fitness: 3"
```

14)
```
Range of Age:  32
Range interval of age is:  18 50
Range of Education:  9
Range interval of education is:  12 21
Range of fitness:  4
Range interval of fitness is:  1 5
```

15)

The variance and standard deviation of age are: 48.21217 and 6.943498

The variance and standard deviation of education are: 2.614867 and 1.617055

The variance and standard deviation of fitness are: 0.9194289 and 0.9588686

16)

```
> quartiles_age = quantile(AJData$Age)
> print(quartiles_age)
  0%  25%  50%  75% 100%
  18   24   26   33   50
> quartiles_education = quantile(AJData$Education)
> print(quartiles_education)
  0%  25%  50%  75% 100%
  12   14   16   16   21
> quartiles_fitness = quantile(AJData$Fitness)
> print(quartiles_fitness)
  0%  25%  50%  75% 100%
   1    3    3    4    5
```

17)

The interquartile range of age is: 9

The interquartile range of education is: 2

The interquartile range of fitness is: 1

18)

```
> summary_age = summary(AJData$Age)
> print(summary_age)
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
  18.00   24.00   26.00   28.79   33.00   50.00
> summary_education = summary(AJData$Education)
> print(summary_education)
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
  12.00   14.00   16.00   15.57   16.00   21.00
> summary_fitness = summary(AJData$Fitness)
> print(summary_fitness)
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
  1.000   3.000   3.000   3.311   4.000   5.000
```

19)

```
Product              Age             Gender          Education
MaritalStatus
Length:180       Min.   :18.00   Length:180      Min.    :12.00
Length:180
Class :character 1st Qu.:24.00   Class :character 1st Qu.:14.00   Class
:character
Mode  :character Median :26.00   Mode  :character Median :16.00   Mode
:character
                 Mean   :28.79                    Mean    :15.57
                 3rd Qu.:33.00                    3rd Qu.:16.00
```

```
                Max.   :50.00                       Max.   :21.00


     Usage             Fitness            Income              Miles
 Min.   :2.000    Min.   :1.000    Min.   : 29562    Min.   : 21.0
 1st Qu.:3.000    1st Qu.:3.000    1st Qu.: 44059    1st Qu.: 66.0
 Median :3.000    Median :3.000    Median : 50597    Median : 94.0
 Mean   :3.456    Mean   :3.311    Mean   : 53720    Mean   :103.2
 3rd Qu.:4.000    3rd Qu.:4.000    3rd Qu.: 58668    3rd Qu.:114.8
 Max.   :7.000    Max.   :5.000    Max.   :104581    Max.   :360.0
```