Experiment 1.2

Student Name: Kanishk Soni **UID: 20BCS9398**
Branch: BE-CSE **Section/Group: 20BCS-DM_708B**
Semester: 6th **Date of Performance: 06-03-2023**
Subject Name: Data Mining Lab **Subject Code: 20CSP-376**

1. Aim:
To perform the statistical analysis of data.

2. Objective:
To perform functions based on analysing the data by using multiple inbuilt functions ofRStudio.

3. Code and Output:

PROGRAM

```
#reading the arff file
r = read.arff("D:\\College\\Sem6\\DM_Lab\\Ex1_df.arff")
print(r)

print(head(r,4))
print(tail(r,4))

#check the attributes
names(r)

# to check the dimensions of the data set
dim(r)

# to check the max and min of the marks
max(r["marks"])
```

```
min(r["marks"])

# finding mean and median of the marks
mean(marks)
median(sort(marks))

# standard deviation of marks
sd(marks)

# sort the marks in ascending order
sort(marks)

#summary of data
summary(r)
```

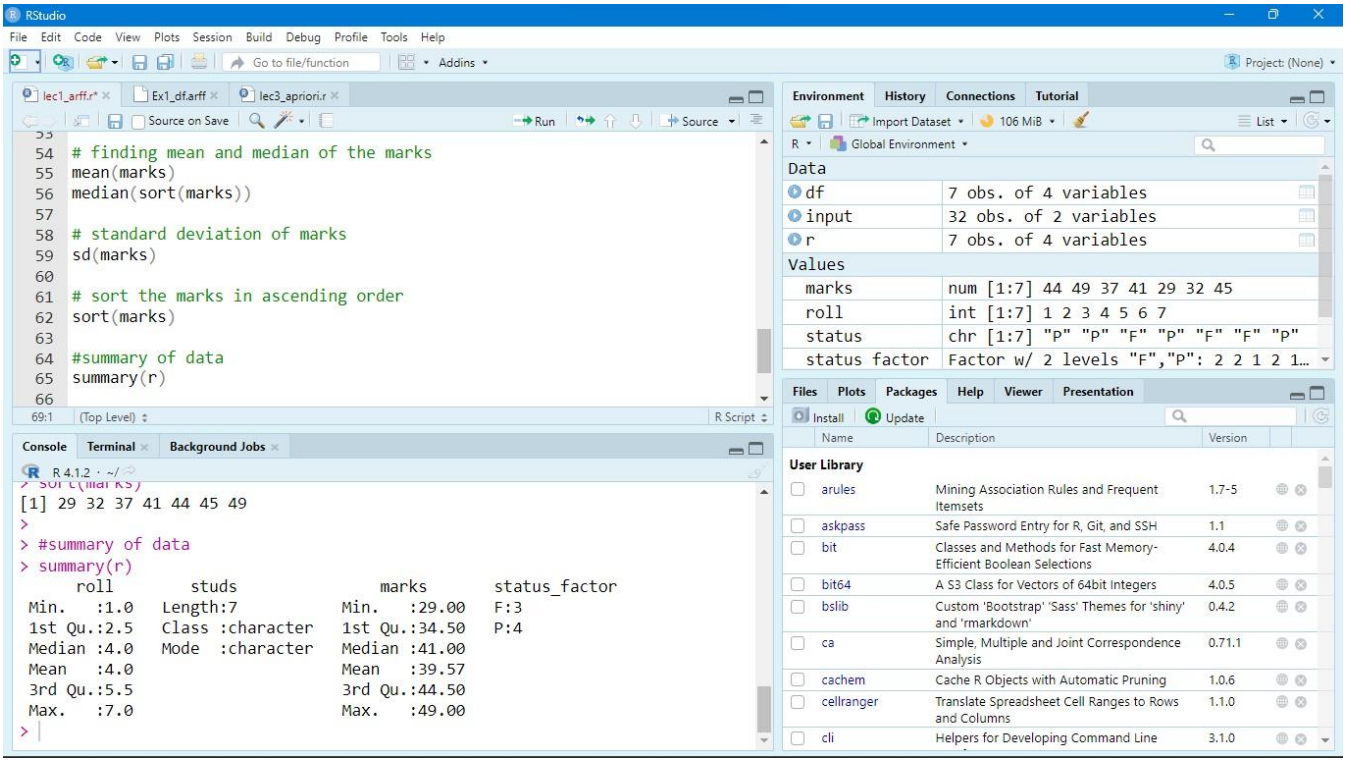
Console:

```
> #reading the arff file
> r = read.arff("D:\\College\\Sem6\\DM_Lab\\Ex1_df.arff") Error in
read.arff("D:\\College\\Sem6\\DM_Lab\\Ex1_df.arff") :
  could not find function "read.arff"
> print(r)
  roll studs marks status_factor
1    1   AAA    44             P
2    2   BBB    49             P
3    3   CCC    37             F
4    4   DDD    41             P
5    5   EEE    29             F
6    6   FFF    32             F
7    7   GGG    45             P
>
> print(head(r,4))
  roll studs marks status_factor
1    1   AAA    44             P
2    2   BBB    49             P
3    3   CCC    37             F
4    4   DDD    41             P
> print(tail(r,4))
```

```
    roll  studs marks   status_factor
4      4   DDD     41               P
5      5    EEE     29               F
6      6    FFF     32               F
7      7   GGG     45               P
>
> #check the attributes
> names(r)
[1]  "roll"                "studs"               "marks"               "status_factor"
>
> # to check the dimensions of the data set
> dim(r)
[1] 7 4
> # to check the max and min of the marks
> max(r["marks"])
[1] 49
> min(r["marks"])
[1] 29
>
> # finding mean and median of the marks
> mean(marks)
[1] 39.57143
> median(sort(marks))
[1] 41
>
> # standard deviation of marks
> sd(marks)
[1]
7.253899
>
> # sort the marks in ascending order
> sort(marks)
[1] 29 32 37 41 44 45 49
>
> #summary of data
> summary(r)
       roll            studs                marks          status_factor
 Min.   :1.0    Length:7           Min.   :29.00    F:3
 1st Qu.:2.5    Class  :character   1st Qu.:34.50    P:4
 Median :4.0    Mode   :character   Median :41.00
 Mean   :4.0                       Mean   :39.57
 3rd Qu.:5.5                       3rd Qu.:44.50
 Max.   :7.0                       Max.   :49.00
```

OUTPUT:

RStudio:



4. Learning Outcomes:

- Statistical analysis means investigating trends, patterns, and relationships usingquantitative data.
- This type of data analysis is usually used to derive patterns, trends or othermeaningful conclusions.