Experiment - 01

Addition :-

Aim :- To write a program for addition using R-program.

Procedure :-

i) Open the R-studio on your computer.

ii) Click on the file in the menu bar and open the new file to open a new R-script.

iii) write your R code in the script editor.

iv) Select the code you want to run step by step.

v) Output will be displayed at the script.

Program :-

```
num1 :- as. integer (readline (prompt = "enter the
        first number :"))
num2 : as. integer (read line (prompt = "enter the
        second numbers :"))
num3 : num1 + num2
print (num3)
```

Output :-

```
Enter the numbers : 3
Enter the number : 2
[1] 5.
```

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Experiment - 02

Subtraction

Aim :- To write a program for subtraction using R program

Procedure:-

i) Open the R-studio on your computer

ii) Click on the file in the menubars and open the new file to open a new R-script

iii) write your R code in the script editor.

iv) select the code you want to run step by step.

v) Output will be displayed at the script.

Program :-

```
num1 = as.integer (readline (prompt = "enter the first number"))
num2 = as.integer (readline (prompt = "enter the second number"))

num3 = num1 - num2

print (num3)
```

Output :-

```
enter a number 1 : 4
enter a number 2 : 2
[1] 2.
```

Experiment - 03

Multiplication :-

Aim :- To write a program for multiplication using R program

Procedure :-

i) open the R studio on your computer.

ii) Click on the file in the menubar and open the new file to open a new R-Script.

iii) write your R code in the R script editor

iv) select the code you want to run step by step.

v) Output will be displayed at the script.

Program :-

```
num1 :- as.integer (readline (prompt = "enter the
        first number"))

num2 :- as.integer (readline (prompt = "enter the
        second number"))

num3 = num1 * num2.

print (num3)
```

Output :-

```
Enter the first number : 3

Enter the second number : 2

[1] 6.
```

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Experiment - 04

Division :-

Aim :- To prove the program for (mod) division using R - program.

Procedure :-

(i) Open the R studio on yours computer.

(ii) Click on the file in the menubars and open the new file to open a new R-script.

(iii) Write your R code in the script editor.

(iv) Select the code you want to run step by step

(v) Output will be displayed at the script

Program :-

```
num1 : as.integer (read line ( Prompt = "Enter a
        number:"))
num2 : as. integer (read line (Prompt = "Enter
        a number:"))
num3 = num1 / num2
print (num3).
```

Output :-

```
Enter a number : 10
Enter a number : 2
[1] 5.
```

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Experiment - 05

ODD or Even :-

Aim :- To write a program for odd or even using R-program.

Procedure :-

i) Open the R studio on your Computer.

ii) Click on the file in the menubar and open the new file.

iii) Write your R code in the script editor

iv) select the code you want to run.

v) Output will be displayed at the script

Program :-

```
num = as.integer (read line (prompt = "Enter a
        number :"))
if ((num %% 2) = 0)
{
    print ("number is even")
} else {
    print ("number is odd")
}
```

Output :-

```
Enter a number : 4
    even
Enter a number : 5
    Odd
```

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Experiment - 06

Mean, median, mode :-

Aim :- To write the program for mean, median & mode.

Procedure :-

(i) Open the R-studio on your computer.

(ii) Click on the file in the menubar and open new file.

(iii) write your R code in script editor.

(iv) select the code you want to run.

(v) Output will be displayed at the script.

Program :-

```
mean
names <- c ("siri", "mahi", "chiru")
age <- c (23,24,25)
marks <- c (88,78,25)
df <- data.frame (names, age, marks)
mean (df $ age)
write.csv (df, " data.fr.csv")
median
names <- c ("siri", "mahi", "chiru")
age <- c (23,24,25)
mark <- c (88, 78,25)
```

```
df <- data frame (names, age, marks)

median (df $ age)

write-csv (df, "data fr- csv")
```

Mode :-

```
name <- c ("siri", "mahi", "chiru")

age <- c (23, 24, 25)

marks <- c (88, 73, 25)

df <- data. frame (names, age, marks)

mode (df. $age)

write . csv (df," data fr. csv).
```

Output :-

```
mean (df $ age)

[1] "numeric". (or) "27.3333".

median (df $ age)

[1] "numeric".

mode (df $ age)

[1] " numeric".
```

Experiment - 07

Summary :-

Aim :- To write the program for summary using R - Program.

Procedure :-

(i) Open the R-studio on your computer.

(ii) Click on the file in the menubar and open the new file.

(iii) Write your R code in the script editor.

(iv) Select the code you want to run.

(v) Output will be displayed at the script.

Program :-

```
names <- c ("siri", "mahi", "chitu")
age <- c (23,24,25)
marks <- c (88,78,25)
df <- data.frame (names, age, marks)
summary (df $ age)
write. csv (df, " data fr. csv")
```

Output :-

```
Summary (df $ age)
```

Min	1st qrt	median	mean	3rd qrt	max
23.00	23.50	24.00	27.33	29.50	35.00

Experiment - 3

Greatest Among three numbers :-

Aim :- To write a program to find the greatest numbers among three numbers.

Procedure :-

(i) Open the R-studio on your computer

(ii) Click on the file in the menubar and open the new file.

(iii) Write your R code in the script editor

(iv) Select the code you want to run.

(v) Output will be displayed at the script.

Program :-
```
x <- as.integer (readline (prompt = "enter a number"))
y <- as.integer (readline (prompt = "enter a number"))
z <- as.integer (readline (prompt = "enter a number"))

if (x>y) & (x>z) {
        print (paste ("Breakfast is :", x))
} else if (y>z) {
        print (paste ("Greatest is :", y))
} else {
        print (paste ("Greatest is :", z))
}
```

Output :-

```
Enter the number : 4
Enter the number : 5
Enter the number : 6
[1] Greatest number is : 6.
```

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Experiment - 09

IQR :-

Aim :- To write a program for central tendency & data dispersion measures using R program

Procedure :-

(i) Open the R-studio on your computer

(ii) Click on the file in the menu bar and open the new file.

(iii) write your R code in the script editor.

(iv) select the code you want to run.

(v) Output will be displayed at the script.

Program :-

```
names <- c ("sai", "mahi", "chinu")
age <- c (23, 24, 25)
marks <- c (83, 78, 25)
df <- data. frame (names, age, marks)
IQR (df $ age)
write . csv (df, " data fo. csv")
```

Output :-

```
IQR (df $ age)
[1] 6.
```

Experiment - 10

Quantile :-

Aim :- To write the program for central tendency and data dispersion measures.

Procedure:-

(i) Open the R-studio on your computer
(ii) Click on the file in the menu bar and open new file.
(iii) write your R code in script editor
(iv) Select the code you want to run.
(v) Output will be displayed at the script.

Program :-

```
names <- c ("siri", "mahi", "chiru")
age <- c (23, 24, 25)

marks <- c (88, 78, 25)

df <- data. frame (names, age, marks)
quantile (df $ age)

write. csv (df, "data fr. csv")
```

Output:-

```
quantile (df $ age)

0%      25%     50%     75%     100%
23.0    23.5    24.0    29.5    35.0
```

Experiment - 11

MID Range :-

Aim :- To write the program for central tendency and data dispersion measures.

Procedure :-

(i) Open the R-studio on your computer

(ii) Click on the file in the menubar & open new file

(iii) write your R code in the script editor

(iv) select the code you want to run.

(v) output will be displayed at the script.

Program :-

```
names <- c ("siri", "mahi", "chiru")
age <- c (23, 24, 25)
marks <- c (88, 78, 25)
df <- data. frame (names, age, marks)
mid range (df $ age)
write . csv (df, " data for csv").
```

Output :-

```
range (df $ age)
[1] 23 35
```

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Experiment - 12

Z-Score Normalization :-

Aim :- To write a program for Z score normalization using R-tool.

Procedure :-

(i) Open the R studio on your computer

(ii) Click on the file in the menubar and open new file.

(iii) write your R code in the script editor

(iv) Select the code you want to run

(v) Output will be displayed at the script.

Program :-

```
diabetest1 <- read_excel ("C:/ users/ M.Geetha/
    Downloads / NARA.xlsx//)
A <- (diabetest1 $ Age)
mean <- mean (A)
Std <- sd (A)
Z Score <- (A-mean) / std
Z-Score
```

Output :-

```
sd (A)
[1] 11.76023.
```

Experiment - 13

min max, mean, min MAX :-

Aim :- To write the program for the minimum, maximum, min max, mean using R-Tool.

Procedure :-

(i) Open the R-studio on your Computer.

(ii) Click on the file in menubar and open new file

(iii) write your R Code in the script editor.

(iv) select the code you want to run.

(v) Output will be displayed at the script.

Program :-

mean :-

```
diabetest 1 <- read_excel ("c:/ user / M. Geetha/
                Downloads / NARA.xlsx/,)

A <- c (diabetest 1 $ age)

mean <- mean (A)
```

Output :-

[1] 33.24089

minimum :-

```
diabetest 1 <- read_excel ("c:/ user / mGeetha/
                Downloads / NARA. xlsx/,)

A <- c (diabetest 1 $ age)
```

median <- median (A)

Output :-

[1] 27

maximum :-

diabetest 1 <- read_excel ("C:/users/M Geethal Downloads/NARA.xlsx")

A <- c (diabetest 1 $ age)

maximum <- max [diabetest 1 $ age].

Output :-

[1] 81.

Experiment - 14

Multiple Regression :-

Aim :- To write the program for the multiple regression using R - Tool.

Procedure

(i) Open the R studio on your computer.

(ii) click on the file in menubar and open new file.

(iii) write your R code in the script editor.

(iv) select the code you want to run.

(v) Output will be displayed at the script.

Program :-

```
Input <- diabetest ("Age", "Blood Pressure",
"Glucose")

mode <- lm (Age ~ Blood Pressure Glucose
data = import)

print (mode)
```

Output :-

```
print (diabetest)
```

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Call

```
lm [ formula = Age ~ Blood Pressure + Glucose,
data = input]
```

Coefficient	Blood Pressure	Glucose
14.33937	0.12399	0.08543

```
A <- coef (mode) ([1])

print (A)
```

Output :- print (A)

Intercept

[4.3393]

```
x Blood pressure <- coef
(model) [2]

y Glucose <- coef (model)
[3]
```

```
print (x Blood pressure)

print (y Glucose)

print (y Glucose)
```

Glucose [0.08 [4321]

y = A + Blood pressure +
y Glucose

```
print (y)
```

Output:-

```
print (y)
```

(Intercept) 14.54883

Experiment - 15

Aim :- To draw a bar plot horizontally using the R-Tool.

Procedure :-

(i) Open the R studio on your Computer

(ii) Click on the file in the menubar and open new file.

(iii) Write your R code in script editor.

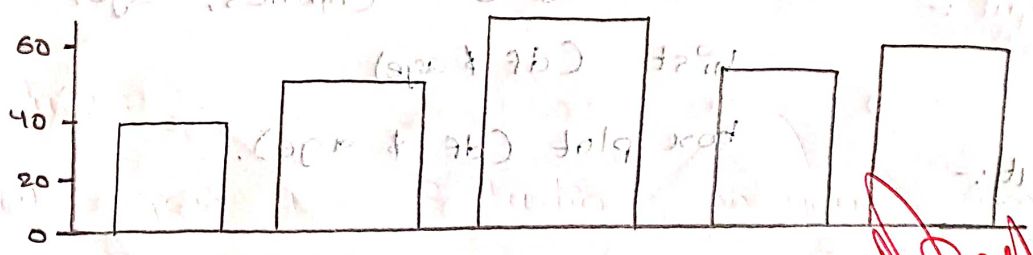
(iv) Select the R code you want to run.

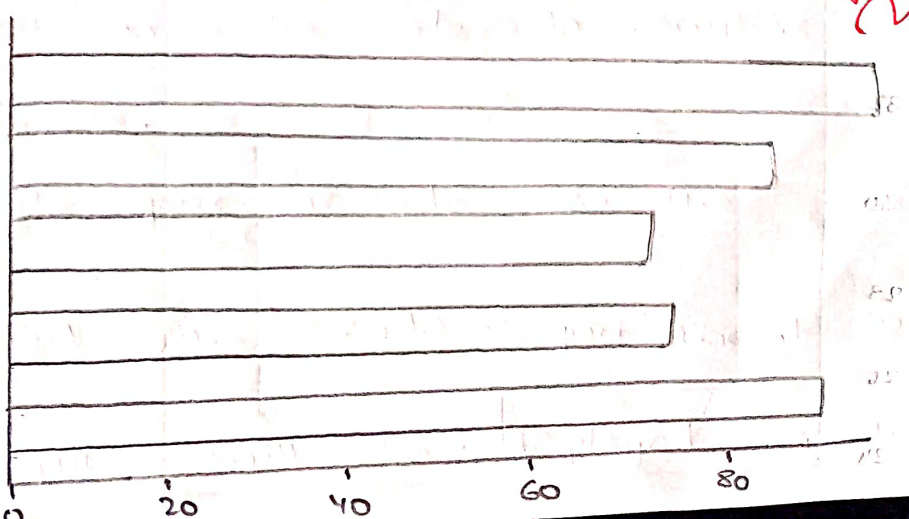
(v) Output will be displayed at the end.

Program :-

```
a <- c (55, 67, 84, 30, 90)
barplot (a)
a <- c (55, 67, 89, 80, 90)
barplot (a)
barplot (a, horizontal = True)
```

Output :-





Experiment - 16

Box Plot :-

Aim :- To draw the box plot using R-tool.

Procedure :-

(i) Open the R studio on your Computer.

(ii) click on the file in the menubar and open new file.

(iii) write your R code in the Script editor.

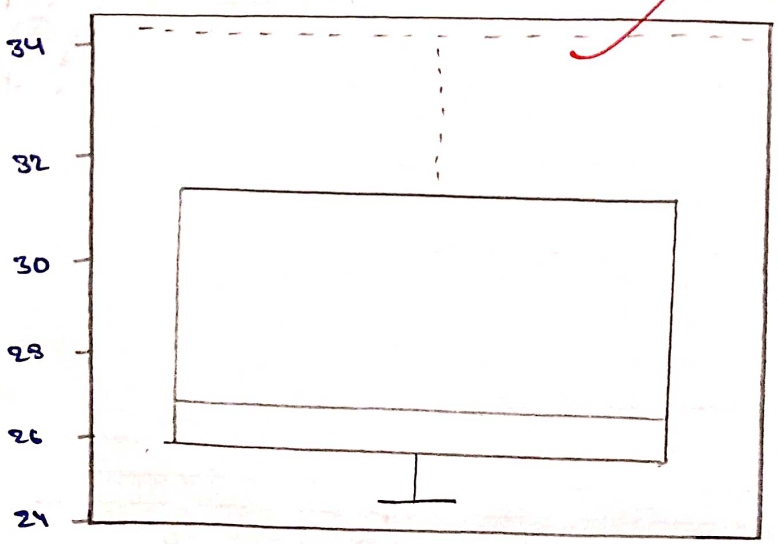
(iv) Select the code you want to run.

(v) Output will be displayed at the script.

Program :-

```
names <- c("siri", "chiru", "loki")
age <- c(88,78,25)
marks <- c(88, 78,25)
df <- data.frame (names, age, marks)
hist (df $ age)
box plot (df $ age).
```

Output :-



Experiment - 27

Histogram :-

Aim :- To draw the histogram plot using the R-tool.

Procedure :-

(i) Open the R studio on your Compute

(ii) Click on the new file in menubar and open new file.

(iii) Write your R code in script editor.

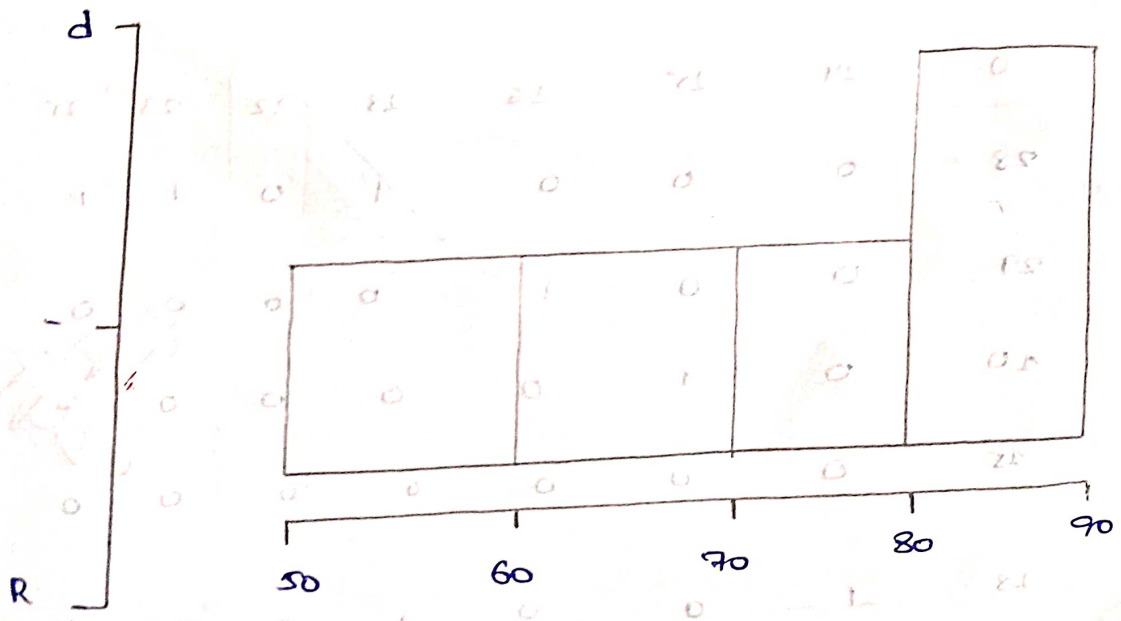
(iv) Select your code you want to run

(v) Output will be displayed at the script.

Program :-

```
a <- c (55, 67, 89, 80, 90)

hist (a)
```

Output :-



Experiment - 18

Correlation Analysis :-

Aim :- To write the program for correlation analysis using R-Tool.

Procedure :-

(i) open R studio on your Computer.

(ii) Click on the file in menubar and open new file.

(iii) write your R code in the script editor.

(iv) Select the code you want to run.

(v) Output will be displayed at the script.

Program :-

```
diabetest 1 <- read_excel ("c/user m.Geetha/ Downl
diabetest 1 <- tabletest+$ Age, diabetest $ Intolin'
diabetest 1.
chis a. test (diabetest 1)
```

Output :-

	0	14	15	16	18	22	23	25	29
21	28	0	0	0	1	0	1	1	0
22	29	0	0	1	0	0	0	0	0
23	10	0	1	0	0	0	0	0	0
24	15	0	0	0	0	0	0	0	0
25	18	1	0	0	1	0	0	0	0

Experiment 19 :-

Scatter Plot :-

Aim :- To draw the scatter plot using R-Tool.

Procedure :-

(i) Open the R studio on your computer.

(ii) Click on file in menubar and open the new file.

(iii) Write your Rcode in the script editor

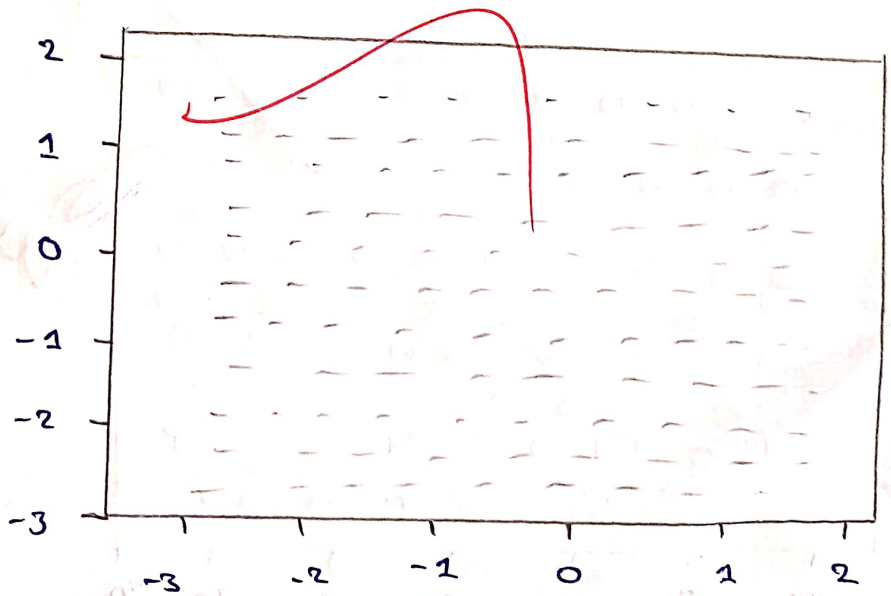
(iv) Select the code you want to run.

(v) Output will be displayed at the script.

Program:-

```
set seed (9)

x <- m norm (1000)

y <- norm (1000)

smooth scatter ( y-x)

smooth scatter (x,y)
```

Output :-



Experiment - 20

Linear Regression :-

Aim :- To write the program for the linear regression using R - tool.

Procedure :-

(i) Open the R-studio on your computer

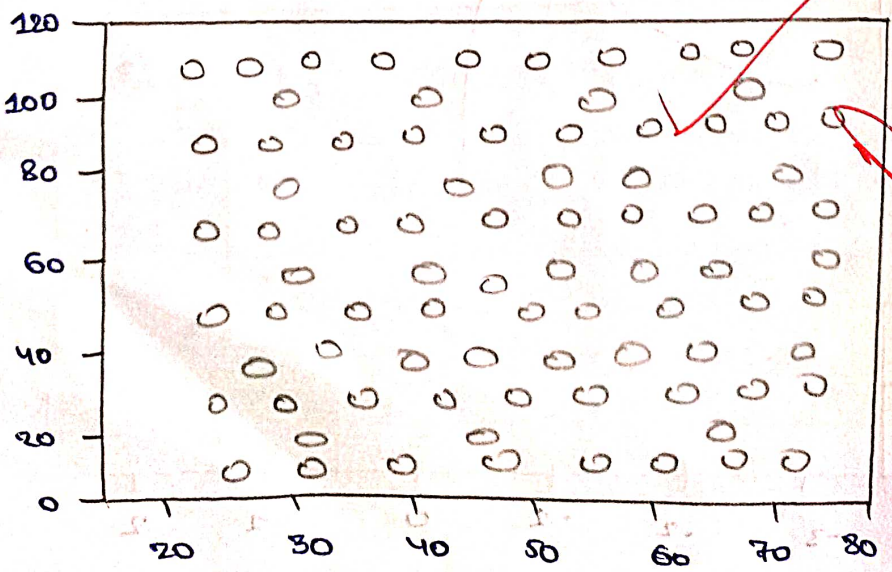
(ii) Click on the file in menu bar and open new file.

(iii) Write your R Code in Script editor.

(iv) Select the Code you want to run.

(v) Output will be displayed at the script.

Program :-

```
Relation <- lm (diabete $ Blood Pressure -
                diabetes $ Age)
Png <- (file = linear regression.png").
```

Output :-