

R programming

Venkata Varun Mangu

192111125

Bar plot:

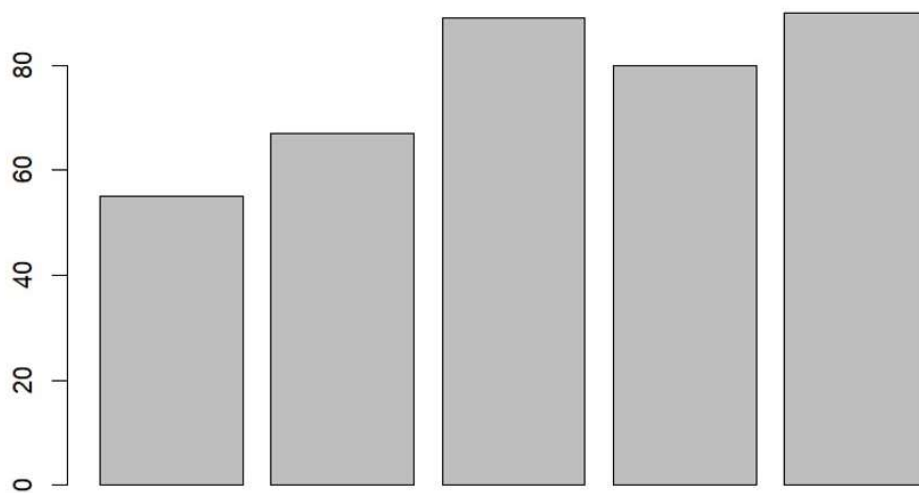
Aim: to implement and design bar plot in r tool.

Syntax:

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

```
barplot(a)
```

output:



Coefficient correlation

AIM: To implement coefficient correlation using R studio

SYNTAX:

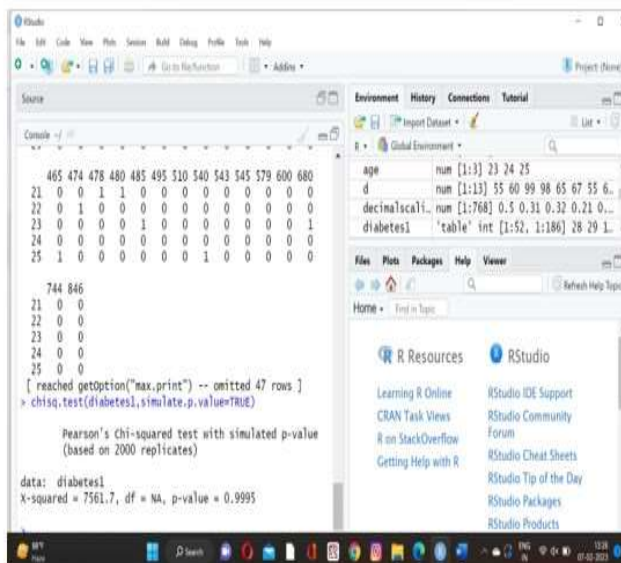
```
diabetes1<-read.csv("C:/Users/Lenovo/Downloads/diabetes.csv")
```

```
diabetes1<-table(diabetes1 $Age,diabetes1 $Insulin)
```

```
diabetes1
```

```
chisq.test(diabetes1,simulate.p.value=TRUE)\
```

OUTPUT:



Decimal scaling

Aim: to implement and design decimal scaling in r tool.

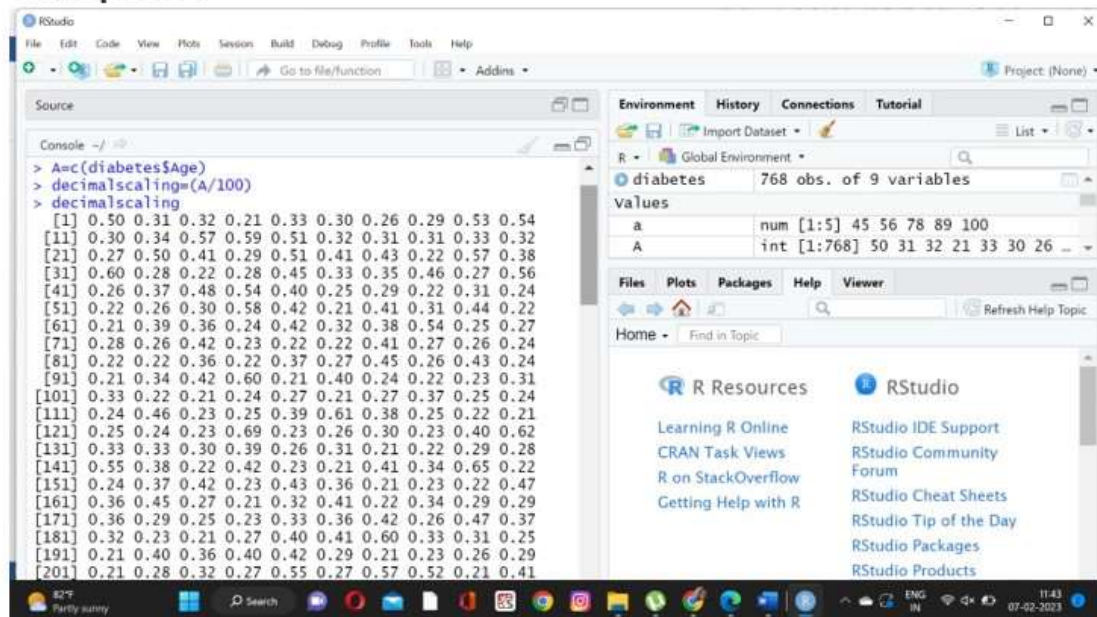
Formula:

$$A/100$$

Syntax:

```
diabetes=read.csv("C:/Users/Lenovo/Downloads/diabetes.csv")
A=c(diabetes$Age)
decimalscaling=(A/100)
decimalscaling
```

output:



Aim: To implement five summary data using r tool

Formula:

Minimum

Lower quartile

Median

Upper quartile

Maximum

Syntax:

```
names<-c ("Sanju", "Gupta")
```

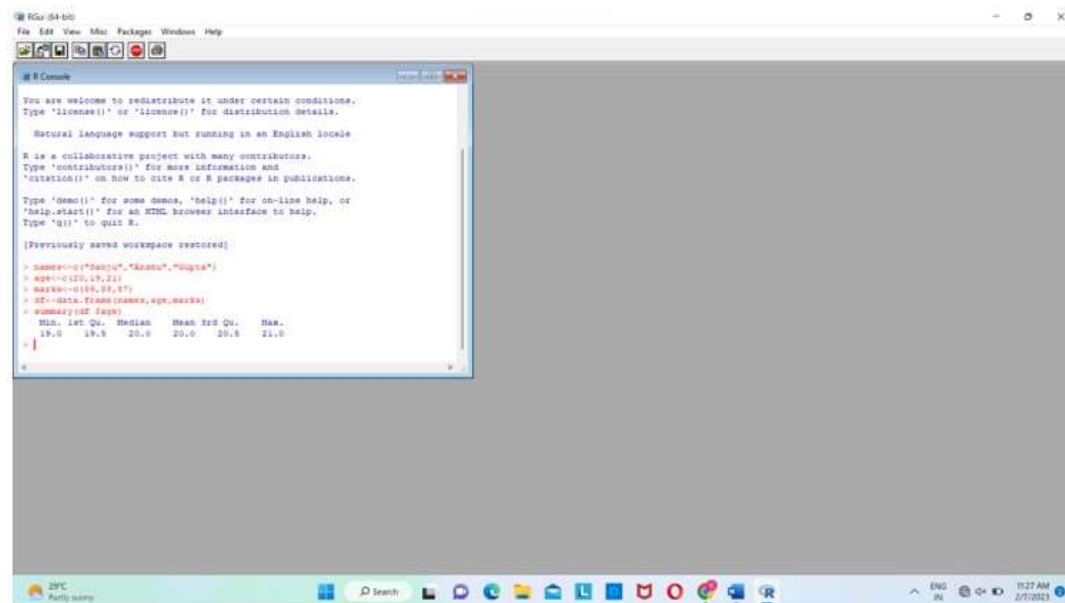
```
age<-c (20,19,21)
```

```
marks<-c (89,88,87)
```

```
d f<-data. Frame (names, age, marks)
```

```
summary (d f $age)
```

Output:



```
RStudio (64-bit)
File Edit View Misc Packages Windows Help

R Console
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'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

[Previously saved workspace restored]

> names<-c("Sanju","Annu","Gupta")
> age<-c(19,19,21)
> marks<-c(89,88,87)
> df<-data.frame(names,age,marks)
> summary(df$age)
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
    19.0    19.0    20.0    19.6    20.0    21.0
```

HISTOGRAM

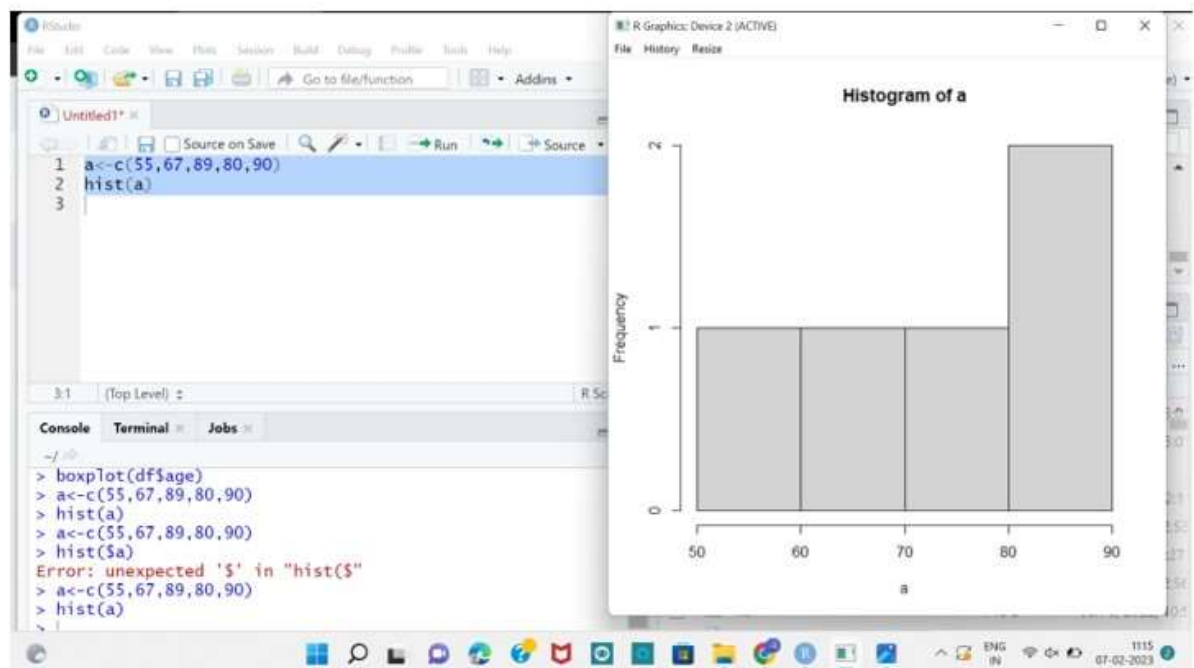
AIM: To implement histogram in R Studio

SYNTAX:

```
A<-c(12,45,67,89)
```

```
hist(A)
```

OUTPUT:



AIM : The aim is to implement linear regression using RStudio.

Syntax:

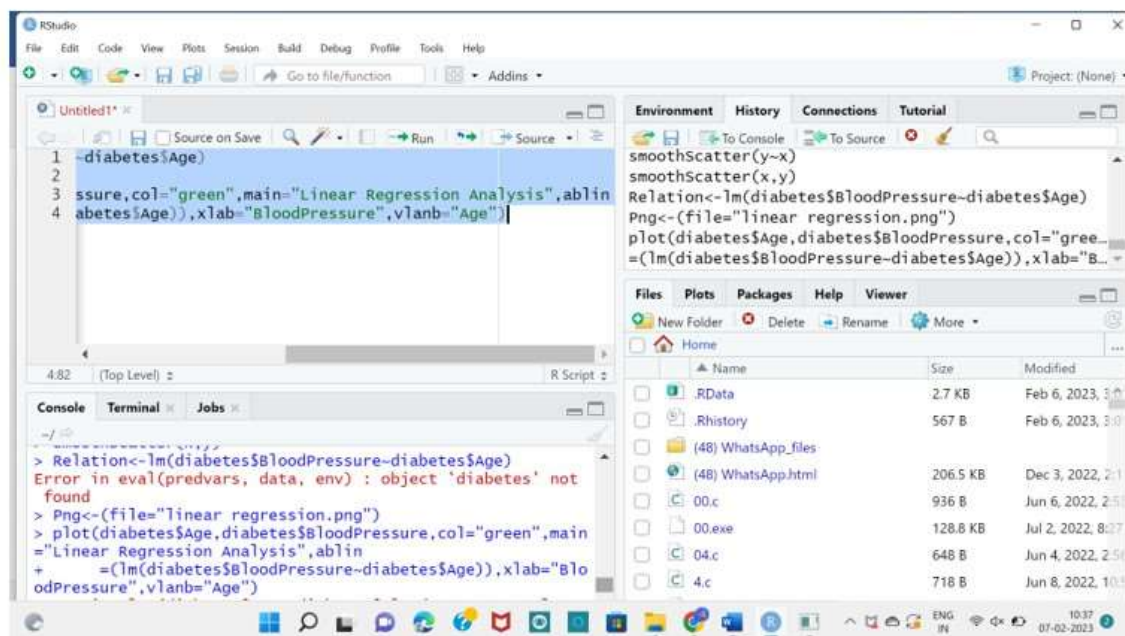
```
Relation<-lm(diabetes$BloodPressure~diabetes$Age)
```

```
Png<- (file="linear regression.png")
```

```
plot(diabetes$Age,diabetes$BloodPressure,col="green",main  
="Linear Regression Analysis",ablin
```

```
=(lm(diabetes$BloodPressure~diabetes$Age)),xlab="BloodPr  
essure",vlab="Age")
```

Output:



The screenshot shows the RStudio interface. The script editor contains the following code:

```
1 diabetes$Age)
2
3 ssure,col="green",main="Linear Regression Analysis",ablin
4 abetes$Age)),xlab="BloodPressure",vlab="Age"]
```

The console shows the execution of the code and an error message:

```
> Relation<-lm(diabetes$BloodPressure~diabetes$Age)
Error in eval(predvars, data, env) : object 'diabetes' not found
> Png<- (file="linear regression.png")
> plot(diabetes$Age,diabetes$BloodPressure,col="green",main
="Linear Regression Analysis",ablin
+ =(lm(diabetes$BloodPressure~diabetes$Age)),xlab="Blo
odPressure",vlab="Age")
```

The Environment pane on the right shows the following objects:

Name	Size	Modified
.RData	2.7 KB	Feb 6, 2023, 3:0
.Rhistory	567 B	Feb 6, 2023, 3:0
(48) WhatsApp_files		
(48) WhatsApp.html	206.5 KB	Dec 3, 2022, 2:1
00.c	936 B	Jun 6, 2022, 2:5
00.exe	128.8 KB	Jul 2, 2022, 8:27
04.c	648 B	Jun 4, 2022, 2:56
4.c	718 B	Jun 8, 2022, 10:1

MEAN

Aim: To implement mean using r tool

Formula:

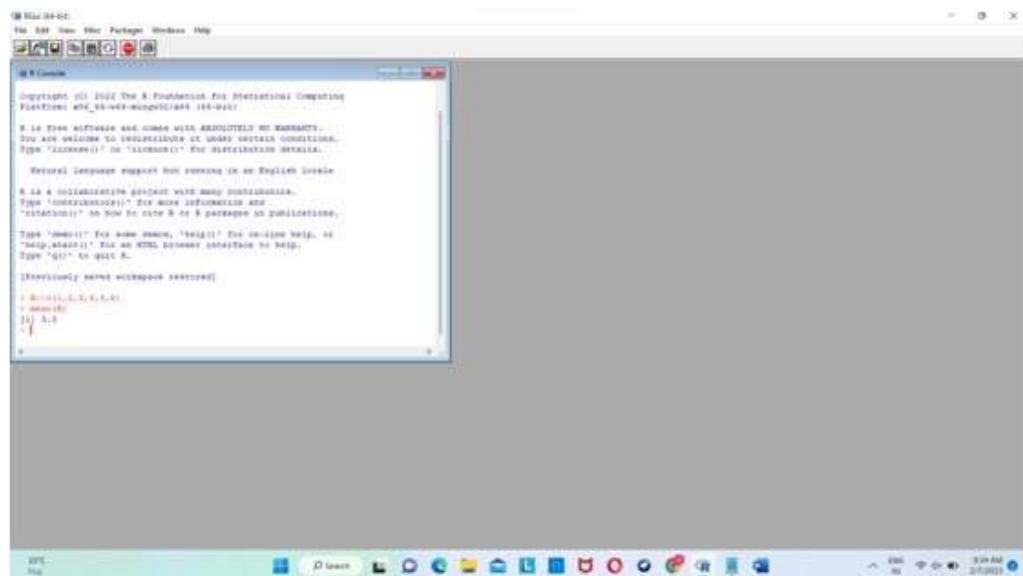
sum of observations/no. of observations

syntax:

`R<c ()`

`Mean(R)`

OUTPUT:



```
R Console
Copyright (c) 2022 The R Foundation for Statistical Computing
Platform: x86_64-w64-mingw32/x64 (64-bit)

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Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

[Previously saved workspace restored]

> R=c(1,2,3,4,5,6)
> mean(R)
[1] 3.5
```

AIM: TO IMPLEMENT MEDIAN IN RSTUDIO

SYNTAX:

```
names<-c("ram","shyam","kumar")
```

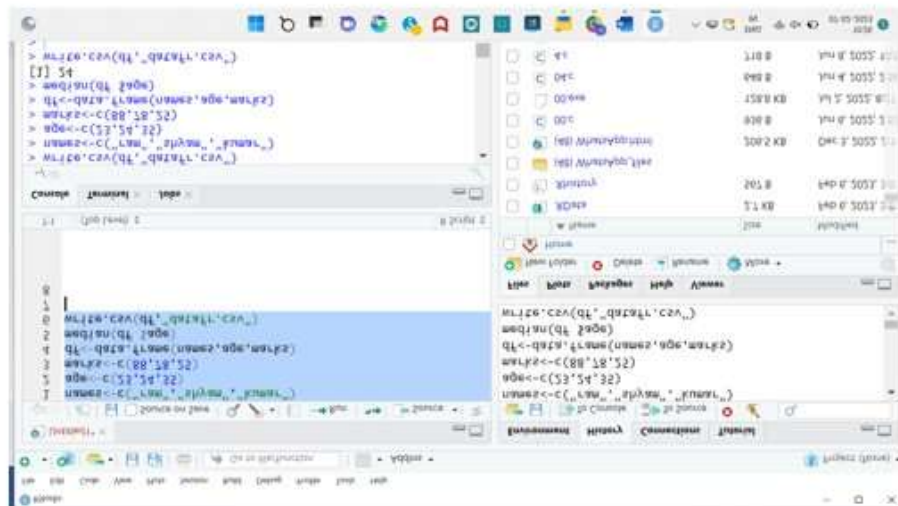
```
age<-c(23,24,35)
```

```
marks<-c(88,78,25)
```

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

```
median(df$age)
```

OUTPUT:



The screenshot shows the RStudio interface with the following code in the script editor:

```
1 > names<-c("ram","shyam","kumar")
2 > age<-c(23,24,35)
3 > marks<-c(88,78,25)
4 > df<-data.frame(names,age,marks)
5 > median(df$age)
```

The console output shows the execution of the code:

```
> names<-c("ram","shyam","kumar")
[1] "ram" "shyam" "kumar"
> age<-c(23,24,35)
[1] 23 24 35
> marks<-c(88,78,25)
[1] 88 78 25
> df<-data.frame(names,age,marks)
  names age marks
1  ram   23    88
2 shyam  24    78
3 kumar  35    25
> median(df$age)
[1] 24
```

The Environment pane on the right shows the objects created: names (character vector), age (numeric vector), marks (numeric vector), and df (data frame).

AIM: TO IMPLEMENT MODE IN RSTUDIO

SYNTAX:

```
names<-c("ram","shyam","kumar")
```

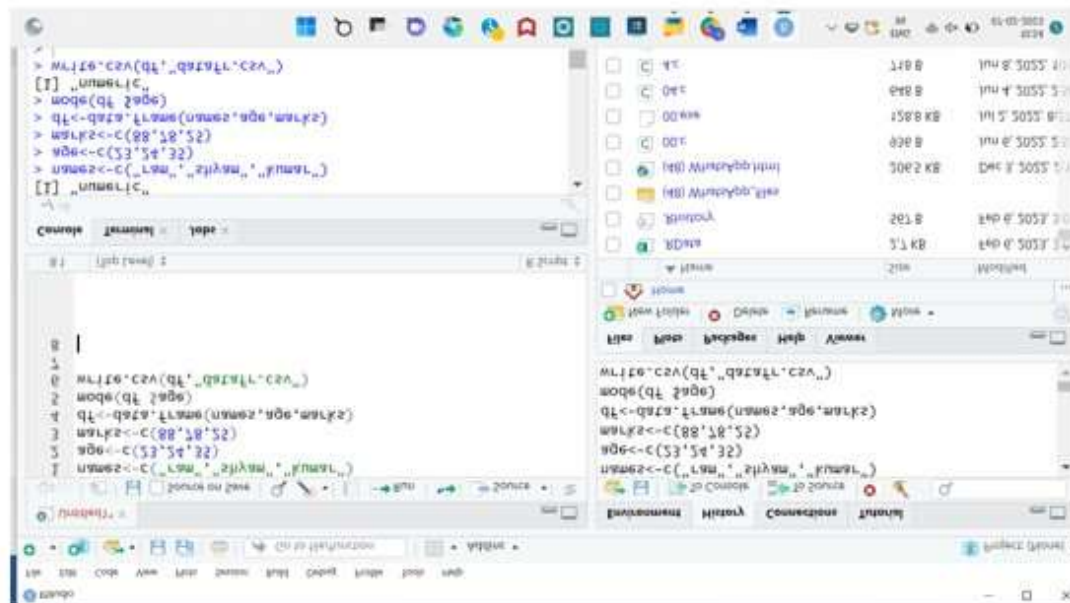
```
age<-c(23,24,35)
```

```
marks<-c(88,78,25)
```

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

```
mode(df $age)
```

OUTPUT:



The screenshot shows the RStudio interface with the following code in the script editor and console:

```
> MLJTG<-CZV(qf'..qazwfl'..CZV..)  
[1] "unavailable"  
> mode(qf 2986)  
> qf<-qazw'..LJWw(uwawz'..adw'..wafkz)  
> wafkz<-c(88'..8'..52)  
> adw<-c(53'..54'..32)  
> uwawz<-c('..LJW'..'..zjlyw'..'..fjwaf..')  
[1] "unavailable"
```

The console output shows the same code being executed, with the final result of the `mode` function call being `"numeric"`.

