**STATISTICS With R**

**ASSIGNMENT -- 1**

1b) Create a function to calculate the average, median and mean for a numeric vector age in employee database?

**Program :**

emp <- function(x)

{

xaverage = sum(x)/length(x)

print("average of vector : ")

print(xaverage)

xmean = mean(x)

print("Mean of Vector : ")

print(xmean)

xmedian = median(x)

print("Median of vector : ")

print(xmedian)

}

vect = c(1,2,3,4,5)

emp(vect)

install.packages("RMySQL")

library(RMySQL)

mydb = dbConnect(MySQL(), user='root', password='', dbname='employee', host='localhost')

mydb

dbListTables(mydb)

dbListFields(mydb, 'details')

rs = dbSendQuery(mydb, "select age from details")

rs

data = fetch(rs, n=-1)

data

emp(data$age)

**Output :**

> emp <- function(x)

+ {

+ xaverage = sum(x)/length(x)

+ print("average of vector : ")

+ print(xaverage)

+

+ xmean = mean(x)

+ print("Mean of Vector : ")

+ print(xmean)

+

+ xmedian = median(x)

+ print("Median of vector : ")

+ print(xmedian)

+

+ }

> mydb = dbConnect(MySQL(), user='root', password='', dbname='employee', host='localhost')

> mydb

<MySQLConnection:0,1>

>

> dbListTables(mydb)

[1] "details"

>

> dbListFields(mydb, 'details')

[1] "age"

>

> rs = dbSendQuery(mydb, "select age from details")

> rs

<MySQLResult:3,1,2>

> data = fetch(rs, n=-1)

> data

age

1 10

2 10

3 20

4 40

5 50

>

> emp(data$age)

[1] "average of vector : "

[1] 26

[1] "Mean of Vector : "

[1] 26

[1] "Median of vector : "

[1] 20

2c) Create a data frame that stores the name, age, designation of the employee. Find how many employees are working in each designation?

**Program :**

name = c(' Mounav ', ' Rizwan ', ' Ajay ', ' Charan ', ' Vamsi ', ' M.sai ')

age = c(19, 19, 20, 30, 18, 20)

desig = c(' Manager ', ' webprogramer ', ' cyber-manager ', ' Manager ', ' webprogramer ', ' Boss ')

df = data.frame(Employee = name, Age = age, Designation = desig)

df

ind = unique(desig)

des = c()

no = c()

for(i in 1:length(ind))

{

count = 0

for(j in 1 : length(desig))

{

if(ind[i] == desig[j])

{

count = count + 1

}

}

des = append(des,ind[i])

no = append(no,count)

}

des

no

result = data.frame("Designation" = ind, "Count" = no)

result

**Output :**

> name = c(' Mounav ', ' Rizwan ', ' Ajay ', ' Charan ', ' Vamsi ', ' M.sai ')

> age = c(19, 19, 20, 30, 18, 20)

> desig = c(' Manager ', ' webprogramer ', ' cyber-manager ', ' Manager ', ' webprogramer ', ' Boss ')

>

> df = data.frame(Employee = name, Age = age, Designation = desig)

> df

Employee Age Designation

1 Mounav 19 Manager

2 Rizwan 19 webprogramer

3 Ajay 20 cyber-manager

4 Charan 30 Manager

5 Vamsi 18 webprogramer

6 M.sai 20 Boss

> ind = unique(desig)

>

> des = c()

> no = c()

>

> for(i in 1:length(ind))

+ {

+ count = 0

+ for(j in 1 : length(desig))

+ {

+ if(ind[i] == desig[j])

+ {

+ count = count + 1

+ }

+ }

+ des = append(des,ind[i])

+ no = append(no,count)

+ }

>

> des

[1] " Manager " " webprogramer " " cyber-manager " " Boss "

> no

[1] 2 2 1 1

>

> result = data.frame("Designation" = ind, "Count" = no)

> result

Designation Count

1 Manager 2

2 webprogramer 2

3 cyber-manager 1

4 Boss 1

3b) Create two vectors that stores the details of name and gender of the employees. Find how many male and female employees are present?

**Program :**

name1 <- c('sai','geetha','ajay','Madhu','vamsi','Parveen')

gender <- c('male','female','male','female','male','female')

mc = sum(gender == 'male')

fc = sum(gender == 'female')

print("No.of male employess : ")

mc

print("No.of female employess : ")

fc

**Output :**

name1 <- c('sai','geetha','ajay','Madhu','vamsi','Parveen')

> gender <- c('male','female','male','female','male','female')

> mc = sum(gender == 'male')

> fc = sum(gender == 'female')

>

> print("No.of male employess : ")

[1] "No.of male employess : "

> mc

[1] 3

> print("No.of female employess : ")

[1] "No.of female employess : "

> fc

[1] 3

4c) Write R code to define the function by using if-else

F(x)=x if x<1/2

=(1-x) if ½<x<1

=0 otherwise

**Program :**

f = function(x)

{

if(x < (1/2))

{

print(x)

}

else if((1/2) < x && x < 1)

{

print(1 - x)

}

else

{

print(0)

}

}

x = 0.3

f(x)

**Output :**

> f = function(x)

+ {

+ if(x < (1/2))

+ {

+ print(x)

+ }

+ else if((1/2) < x && x < 1)

+ {

+ print(1 - x)

+ }

+ else

+ {

+ print(0)

+ }

+ }

>

> x = 0.3

> f(x)

[1] 0.3