Lab Evaluation(DM and ML)

1)  Create a list (21,23,43,54,23,56,54,43,76,89,26,91) perform the following

a. Calculate minimum,maximum, mean

MAXIMUM

list1 = list(21,23,43,54,23,56,54,43,76,89,26,91)

> max = list1[1]

> for(value in list1){

+ if(value>max){

+ max = value

+ }

+ }

> max

[1] 91

MINIMUM

list1 = list(21,23,43,54,23,56,54,43,76,89,26,91)

> min = list1[1]

> for(value in list1){

+ if(value<min){

+ min = value

+ }

+ }

> min

[[1]]

[1] 21

MEAN

sum = 0

> avg = 0

> for(value in list1){

+ sum = sum + value

+ avg = sum / length(list1)

+ }

> avg

[1] 49.91667

b. Perform binning (equal width / equal depth)- get number of bins from user

list1=sort.int(list1,method="quick")

> numberofbins=3

> n=numberofbins

> w=(maximum-minimum)/n

> start=minimum

> print ("Start ")

[1] "Start "

> while (n>0)

+ {

+ for (j in list1) {

+ if (j>=start){

+ if (j<(start+w))

+ {print (j)

+ }

+ }}

+ print("Bin")

+ start=start+w

+ n=n-1

+ }

[1] 21

[1] "Bin"

[1] 23

[1] 43

[1] 23

[1] 43

[1] 26

[1] "Bin"

[1] 54

[1] 56

[1] 54

[1] "Bin"

c) z-score

vector = c(21,23,43,54,23,56,54,43,76,89,26,91)

> for(i in vector){

+ zscore=(i - avg)/std\_dev

+ zscore

+ }

2. Write a R program to create a sequence of numbers from 20 to 50 and find the mean

a = c(20:50)

> b = mean(a)

> b

[1] 35

3. Write a R program to find the maximum and the minimum value of a given vector.

num\_vec = c(5,1,7,3,39,65,43,25,36)

> maximum = max(num\_vec) maximum = 65

> minimum = min(num\_vec) minimum = 1

4. Write a R program to create a Data Frames which contain details of 5 employees and display summary of the data.

employee\_details = data.frame(name = c("Becker", "Virgil", "Firmino", "Salah", "Sadio"), age = c(24,27,28,29,25), department = c("HR", "Finance", "Management", "Sales", "Engineering"))

> employee\_details

name age department

1 Becker 24 HR

2 Virgil 27 Finance

3 Firmino 28 Management

4 Salah 29 Sales

5 Sadio 25 Engineering

5. Write a R program to add a new column in a given data frame.

employee\_details$salary = c(40000,35000,50000,55000,20000)

new = employee\_details

> new

name age department salary

1 Becker 24 HR 40000

2 Virgil 27 Finance 35000

3 Firmino 28 Management 50000

4 Salah 29 Sales 55000

5 Sadio 25 Engineering 20000

6. Write a R program to add new row(s) to an existing data frame.

employee\_details[6, ] = list("TAA", 21, "Fitness", 25000)

7. Write a R program to drop column(s) by name from a given data frame.

drop(employee\_details$salary)

[1] 40000 35000 50000 55000 20000

drop(employee\_details$age)

[1] 24 27 28 29 25