**PRACTICAL - 3**

1. Access iris data from R and answer the following.
2. State the dimension of the data.
3. Select following subset of the data.

I)Second row.

II)Third column.

III)The (2,3) element.

IV)Select the third through six rows.

V)FIRST SECOND FOURTH ROW

vi)all the data except the first two column.

Implementation

> data(iris)

> iris

> dim(iris)

> iris[2,]

> iris[,3]

> iris[2,3]

> iris[3:6,]

> iris[c(1,2,4),]

> iris[,c(1,2,4]

> iris[,-c(1,2)]

**PRATICAL NO-3(FREQUENCY DISTRIBUTION)**

1. Suppose we have a set of 30 obs on number of children in 30 families as given below:

3,0,0,1,3,2,1,0,4,2,3,3,0,1,3,2,1,4,3,2,0,1,4,2,1,1,1,3,2,2

Prepare a frequency table for this data.

(hint)Create a vector and store in variable.

1. Access a data set in ‘mtcars’ and prepare a frequency distribution for gear

> data(mtcars)

> mtcars

> factor(mtcars$gear)

> table(mtcars$gear)

> a=table(mtcars$gear)

> transform(a)

> w=a

> w

> t=as.data.frame(w)

> names(t)[1]='gear'

> t

3.) For the following data of no of calls per hour prepare a frequency distribution table

1,2,4,8,9,3,4,1,4,2,1,3,2,1,2

> x=c(1,2,4,8,9,3,4,1,4,2,1,3,2,1,2)

> x

4.) following data is about rainfall (in mms) in month of july in certain place, prepare a frequency taking class intervals 40-50,50-60 and so on

The values are (57.6,72.8,48.1,71.4,83.1,91.6,71.3,63.4,43.9,69.2,87.5,90.1,98.8,49.2,54.6,71.5,62.7,59.7,48.3,54.1,73.6,48.2,54.6,77.1,49.6,58.3,60.5,63.2,54.7,65,70.1)

5.) the following data is on the height (in cms) of a certain species of plant tabulate it in a freq table using class 5.7-6.7,6.7-7.7…….

(9.7,11.2,8.9,11.6,11.7,10.2,11.8,9.6,13.4,9.9,5.7,9.2,9.4,8.6,11.6,12.2,7.4,9.3,10.6,10,8.4,10.6,

10.6,9.2,10.5,9.4,10,9.4,11.2,8.7,9.6,9.2,9.3,6.7,9.5,9.8,10,11.2,11.6,12,7.6,13.2,10.11,11.4,12.2,10.5,10.9)

> x=c(3,0,0,1,3,2,1,0,4,2,3,3,0,1,3,2,1,4,3,2,0,1,4,2,1,1,1,3,2,2)

> x

[1] 3 0 0 1 3 2 1 0 4 2 3 3 0 1 3 2 1 4 3 2 0 1 4 2 1 1 1 3 2 2

> table(x)

x

0 1 2 3 4

5 8 7 7 3

> y= table(x)

> transform(y)

x Freq

1 0 5

2 1 8

3 2 7

4 3 7

5 4 3

> data(mtcars)

> mtcars

mpg cyl disp hp drat wt qsec vs am gear carb

Mazda RX4 21.0 6 160.0 110 3.90 2.620 16.46 0 1 4 4

Mazda RX4 Wag 21.0 6 160.0 110 3.90 2.875 17.02 0 1 4 4

Datsun 710 22.8 4 108.0 93 3.85 2.320 18.61 1 1 4 1

Hornet 4 Drive 21.4 6 258.0 110 3.08 3.215 19.44 1 0 3 1

Hornet Sportabout 18.7 8 360.0 175 3.15 3.440 17.02 0 0 3 2

Valiant 18.1 6 225.0 105 2.76 3.460 20.22 1 0 3 1

Duster 360 14.3 8 360.0 245 3.21 3.570 15.84 0 0 3 4

Merc 240D 24.4 4 146.7 62 3.69 3.190 20.00 1 0 4 2

Merc 230 22.8 4 140.8 95 3.92 3.150 22.90 1 0 4 2

Merc 280 19.2 6 167.6 123 3.92 3.440 18.30 1 0 4 4

Merc 280C 17.8 6 167.6 123 3.92 3.440 18.90 1 0 4 4

Merc 450SE 16.4 8 275.8 180 3.07 4.070 17.40 0 0 3 3

Merc 450SL 17.3 8 275.8 180 3.07 3.730 17.60 0 0 3 3

Merc 450SLC 15.2 8 275.8 180 3.07 3.780 18.00 0 0 3 3

Cadillac Fleetwood 10.4 8 472.0 205 2.93 5.250 17.98 0 0 3 4

Lincoln Continental 10.4 8 460.0 215 3.00 5.424 17.82 0 0 3 4

Chrysler Imperial 14.7 8 440.0 230 3.23 5.345 17.42 0 0 3 4

Fiat 128 32.4 4 78.7 66 4.08 2.200 19.47 1 1 4 1

Honda Civic 30.4 4 75.7 52 4.93 1.615 18.52 1 1 4 2

Toyota Corolla 33.9 4 71.1 65 4.22 1.835 19.90 1 1 4 1

Toyota Corona 21.5 4 120.1 97 3.70 2.465 20.01 1 0 3 1

Dodge Challenger 15.5 8 318.0 150 2.76 3.520 16.87 0 0 3 2

AMC Javelin 15.2 8 304.0 150 3.15 3.435 17.30 0 0 3 2

Camaro Z28 13.3 8 350.0 245 3.73 3.840 15.41 0 0 3 4

Pontiac Firebird 19.2 8 400.0 175 3.08 3.845 17.05 0 0 3 2

Fiat X1-9 27.3 4 79.0 66 4.08 1.935 18.90 1 1 4 1

Porsche 914-2 26.0 4 120.3 91 4.43 2.140 16.70 0 1 5 2

Lotus Europa 30.4 4 95.1 113 3.77 1.513 16.90 1 1 5 2

Ford Pantera L 15.8 8 351.0 264 4.22 3.170 14.50 0 1 5 4

Ferrari Dino 19.7 6 145.0 175 3.62 2.770 15.50 0 1 5 6

Maserati Bora 15.0 8 301.0 335 3.54 3.570 14.60 0 1 5 8

Volvo 142E 21.4 4 121.0 109 4.11 2.780 18.60 1 1 4 2

> [factor(mtcars$gear)

Error: unexpected '[' in "["

> factor(mtcars$gear)

[1] 4 4 4 3 3 3 3 4 4 4 4 3 3 3 3 3 3 4 4 4 3 3 3 3 3 4 5 5 5 5 5 4

Levels: 3 4 5

> table(mtcars$gear)

3 4 5

15 12 5

> a=table(mtcars$gear)

> transform(a)

Var1 Freq

1 3 15

2 4 12

3 5 5

> w=a

> w

3 4 5

15 12 5

> t=as.dataframe(w)

Error in as.dataframe(w) : could not find function "as.dataframe"

> t=as.data.frame(w)

> names(t)[1]='gear'

> t

gear Freq

1 3 15

2 4 12

3 5 5

> x=c(1,2,4,8,9,3,4,1,4,2,1,3,2,1,2)

> x

[1] 1 2 4 8 9 3 4 1 4 2 1 3 2 1 2

> table(x)

x

1 2 3 4 8 9

4 4 2 3 1 1

> transform(x)

X\_data

1 1

2 2

3 4

4 8

5 9

6 3

7 4

8 1

9 4

10 2

11 1

12 3

13 2

14 1

15 2

> y=x

> transform(y)

X\_data

1 1

2 2

3 4

4 8

5 9

6 3

7 4

8 1

9 4

10 2

11 1

12 3

13 2

14 1

15 2

> t=as.data.frame(w)

>

> t=as.data.frame(w)

> t=as.data.frame(y)

> y

[1] 1 2 4 8 9 3 4 1 4 2 1 3 2 1 2

> table(x)=y

Error in table(x) = y : could not find function "table<-"

> table(x)=y

Error in table(x) = y : could not find function "table<-"

> y=table(x)

> y

x

1 2 3 4 8 9

4 4 2 3 1 1

> t=as.data.frame(w)

> t=as.data.frame(y)

> y

x

1 2 3 4 8 9

4 4 2 3 1 1

> x=c(1,2,4,8,9,3,4,1,4,2,1,3,2,1,2)

> x

[1] 1 2 4 8 9 3 4 1 4 2 1 3 2 1 2

> table(x)

x

1 2 3 4 8 9

4 4 2 3 1 1

> table(x)=y

Error in table(x) = y : could not find function "table<-"

> y=table(x)

> y

x

1 2 3 4 8 9

4 4 2 3 1 1

> t=as.data.frame(y)

> t

x Freq

1 1 4

2 2 4

3 3 2

4 4 3

5 8 1

6 9 1

> c=cut(x,breaks=c(1,2,3,4,,8,9,10),right=False)

Error in c(1, 2, 3, 4, , 8, 9, 10) : argument 5 is empty

> c=cut(x,breaks=c(1,2,3,4,8,9,10),right=False)

Error in paste0(if (right) "(" else "[", ch.br[-nb], ",", ch.br[-1L], :

object 'False' not found

> c=cut(x,breaks=c(1,2,3,4,8,9,10),right=FALSE)

> C

function (object, contr, how.many, ...)

{

if (!nlevels(object))

stop("object not interpretable as a factor")

if (!missing(contr) && is.name(Xcontr <- substitute(contr)))

contr <- switch(as.character(Xcontr), poly = "contr.poly",

helmert = "contr.helmert", sum = "contr.sum", treatment = "contr.treatment",

SAS = "contr.SAS", contr)

if (missing(contr)) {

oc <- getOption("contrasts")

contr <- if (length(oc) < 2L)

if (is.ordered(object))

contr.poly

else contr.treatment

else oc[1 + is.ordered(object)]

}

if (missing(how.many) && missing(...))

contrasts(object) <- contr

else {

if (is.character(contr))

contr <- get(contr, mode = "function")

if (is.function(contr))

contr <- contr(nlevels(object), ...)

contrasts(object, how.many) <- contr

}

object

}

<bytecode: 0x0167a698>

<environment: namespace:stats>

> c=cut(x,breaks=c(1,2,3,4,8,9,10),right=FALSE)

> c

[1] [1,2) [2,3) [4,8) [8,9) [9,10) [3,4) [4,8) [1,2) [4,8) [2,3)

[11] [1,2) [3,4) [2,3) [1,2) [2,3)

Levels: [1,2) [2,3) [3,4) [4,8) [8,9) [9,10)

> transform(c)

X\_data

1 [1,2)

2 [2,3)

3 [4,8)

4 [8,9)

5 [9,10)

6 [3,4)

7 [4,8)

8 [1,2)

9 [4,8)

10 [2,3)

11 [1,2)

12 [3,4)

13 [2,3)

14 [1,2)

15 [2,3)

> z=table(c)

> z

c

[1,2) [2,3) [3,4) [4,8) [8,9) [9,10)

4 4 2 3 1 1

> transform(z)

c Freq

1 [1,2) 4

2 [2,3) 4

3 [3,4) 2

4 [4,8) 3

5 [8,9) 1

6 [9,10) 1

> x=c((57.6,72.8,48.1,71.4,83.1,91.6,71.3,63.4,43.9,69.2,87.5,90.1,98.8,49.2,54.6,71.5,62.7,59.7,48.3,54.1,73.6,48.2,54.6,77.1,49.6,58.3,60.5,63.2,54.7,65,70.1) )

Error: unexpected ',' in "x=c((57.6,"

>

>

> x=c((57.6,72.8,48.1,71.4,83.1,91.6,71.3,63.4,43.9,69.2,87.5,90.1,98.8,49.2,54.6,71.5,62.7,59.7,48.3,54.1,73.6,48.2,54.6,77.1,49.6,58.3,60.5,63.2,54.7,65,70.1) )

Error: unexpected ',' in "x=c((57.6,"

> x=c(57.6,72.8,48.1,71.4,83.1,91.6,71.3,63.4,43.9,69.2,87.5,90.1,98.8,49.2,54.6,71.5,62.7,59.7,48.3,54.1,73.6,48.2,54.6,77.1,49.6,58.3,60.5,63.2,54.7,65,70.1)

> x

[1] 57.6 72.8 48.1 71.4 83.1 91.6 71.3 63.4 43.9 69.2 87.5 90.1 98.8 49.2 54.6

[16] 71.5 62.7 59.7 48.3 54.1 73.6 48.2 54.6 77.1 49.6 58.3 60.5 63.2 54.7 65.0

[31] 70.1

> table(x)

x

43.9 48.1 48.2 48.3 49.2 49.6 54.1 54.6 54.7 57.6 58.3 59.7 60.5 62.7 63.2

1 1 1 1 1 1 1 2 1 1 1 1 1 1 1

63.4 65 69.2 70.1 71.3 71.4 71.5 72.8 73.6 77.1 83.1 87.5 90.1 91.6 98.8

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

> transform(x)

X\_data

1 57.6

2 72.8

3 48.1

4 71.4

5 83.1

6 91.6

7 71.3

8 63.4

9 43.9

10 69.2

11 87.5

12 90.1

13 98.8

14 49.2

15 54.6

16 71.5

17 62.7

18 59.7

19 48.3

20 54.1

21 73.6

22 48.2

23 54.6

24 77.1

25 49.6

26 58.3

27 60.5

28 63.2

29 54.7

30 65.0

31 70.1

> c=cut(x,breaks=c(40,50,60,70,80,90,100),right=FALSE)

> c

[1] [50,60) [70,80) [40,50) [70,80) [80,90) [90,100) [70,80) [60,70)

[9] [40,50) [60,70) [80,90) [90,100) [90,100) [40,50) [50,60) [70,80)

[17] [60,70) [50,60) [40,50) [50,60) [70,80) [40,50) [50,60) [70,80)

[25] [40,50) [50,60) [60,70) [60,70) [50,60) [60,70) [70,80)

Levels: [40,50) [50,60) [60,70) [70,80) [80,90) [90,100)

> table(c)

c

[40,50) [50,60) [60,70) [70,80) [80,90) [90,100)

6 7 6 7 2 3

> transform(c)

X\_data

1 [50,60)

2 [70,80)

3 [40,50)

4 [70,80)

5 [80,90)

6 [90,100)

7 [70,80)

8 [60,70)

9 [40,50)

10 [60,70)

11 [80,90)

12 [90,100)

13 [90,100)

14 [40,50)

15 [50,60)

16 [70,80)

17 [60,70)

18 [50,60)

19 [40,50)

20 [50,60)

21 [70,80)

22 [40,50)

23 [50,60)

24 [70,80)

25 [40,50)

26 [50,60)

27 [60,70)

28 [60,70)

29 [50,60)

30 [60,70)

31 [70,80)

> z=table(c)

> z

c

[40,50) [50,60) [60,70) [70,80) [80,90) [90,100)

6 7 6 7 2 3

> transform(z)

c Freq

1 [40,50) 6

2 [50,60) 7

3 [60,70) 6

4 [70,80) 7

5 [80,90) 2

6 [90,100) 3

> > x=c(9.7,11.2,8.9,11.6,11.7,10.2,11.8,9.6,13.4,9.9,5.7,9.2,9.4,8.6,11.6,12.2,7.4,9.3,10.6,10,8.4,10.6)

> x

[1] 9.7 11.2 8.9 11.6 11.7 10.2 11.8 9.6 13.4 9.9 5.7 9.2 9.4 8.6 11.6 12.2 7.4 9.3 10.6 10.0 8.4 10.6

> table(x)

x

5.7 7.4 8.4 8.6 8.9 9.2 9.3 9.4 9.6 9.7 9.9 10 10.2 10.6 11.2 11.6 11.7 11.8 12.2 13.4

1 1 1 1 1 1 1 1 1 1 1 1 1 2 1 2 1 1 1 1

> c=cut(x,breaks=c(5.7-6.7,6.7-7.7,7.7-8.7,8.7-9.7,9.7-10.7,10.7-11.7,11.7-12.7,12.7-13.7,13.7-14.7),right=FALSE)

Error in cut.default(x, breaks = c(5.7 - 6.7, 6.7 - 7.7, 7.7 - 8.7, 8.7 - :

'breaks' are not unique

> c=cut(x,breaks=c(5.7,6.7,7.7,8.7,9.7,10.7,11.7,12.7,13.7,14.7),right=FALSE)

> c

[1] [9.7,10.7) [10.7,11.7) [8.7,9.7) [10.7,11.7) [11.7,12.7) [9.7,10.7) [11.7,12.7) [8.7,9.7) [12.7,13.7) [9.7,10.7) [5.7,6.7) [8.7,9.7) [8.7,9.7)

[14] [7.7,8.7) [10.7,11.7) [11.7,12.7) [6.7,7.7) [8.7,9.7) [9.7,10.7) [9.7,10.7) [7.7,8.7) [9.7,10.7)

Levels: [5.7,6.7) [6.7,7.7) [7.7,8.7) [8.7,9.7) [9.7,10.7) [10.7,11.7) [11.7,12.7) [12.7,13.7) [13.7,14.7)

> a=table(c)

> a

c

[5.7,6.7) [6.7,7.7) [7.7,8.7) [8.7,9.7) [9.7,10.7) [10.7,11.7) [11.7,12.7) [12.7,13.7) [13.7,14.7)

1 1 2 5 6 3 3 1 0

> transform(a)

c Freq

1 [5.7,6.7) 1

2 [6.7,7.7) 1

3 [7.7,8.7) 2

4 [8.7,9.7) 5

5 [9.7,10.7) 6

6 [10.7,11.7) 3

7 [11.7,12.7) 3

8 [12.7,13.7) 1

9 [13.7,14.7) 0

>