

## Module: 5

### Graphs and Charts

#### I Bar plot

→ `barplot()`

→ we can supply a vector or matrix as I/p

→ If we supply a vector, the plot will have bars with their heights equal to the elts in the vector.

eg: `kemp = c(27, 26, 23, 24, 26, 28, 25)`

`barplot(kemp)`

main- heading

xlab- x axis name

ylab- y axis name

nam.arg- name of each bar

col- color name of bar

horiz- horizontal graph (`horiz=TRUE`)

density- shading (`density=10`)

border- bar border color.

#### II

#### Pie chart

function; `pie(x)`

eg:  $x = (1, 1, 1, 2, 2, 3, 3, 4, 4, 4)$

$y = \text{table}(x)$

$\text{pie}(y)$

→ main: heading

→  $\text{pie}(y, \text{main} = \text{"first"})$

→  $x$  - input values

→ labels - to give labels names for slices

→ edges - circular o/p of pie is approximated by a polygon with many edges [default: 200]

→ radius - to change radius, default - 0.8, max - 1

→ clockwise - to label in clockwise direction

(clockwise = T)

→ density - to shade pie

eg: density:  $(10, 20, 30, 40) \rightarrow$

diff. shading each slice

→ col - to give colors

col = rainbow(15)

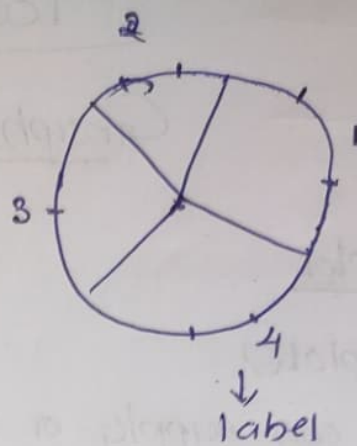
→ border - to give border

border = F

→ we can make 3D by installing plotrix

eg:  $\text{plot3D}(y)$

>  $\text{pie3D}(y, \text{explode} = .2)$



16 make the pie chart into two pieces.

## Histogram

(quantitative data plotting)

$x = c(1,1,1,1,1, 2,2,2,2, 3,3,3, 4,4)$

$y = \text{table}(x)$

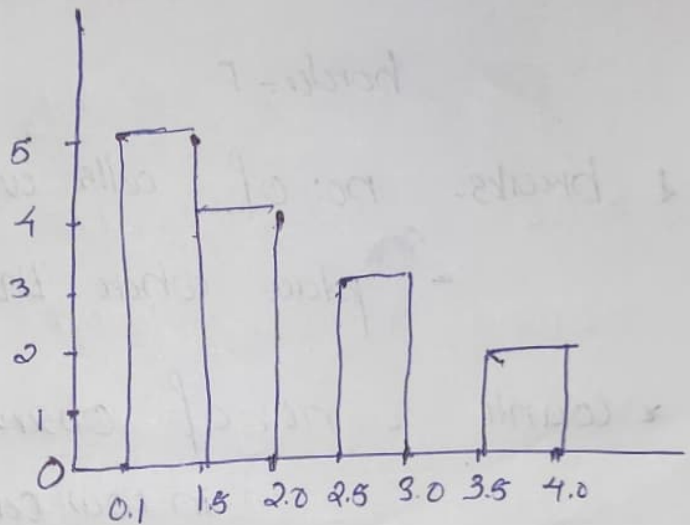
$> y$

$> 2$

1 2 3 4

5 4 3 2

$> \text{hist}(x)$



To see grouping

$> \text{cut}(x, 4)$

\* main heading

\* xlab - x axis name

\* ylab - y axis name

\* xlim - x limit

\* ylim - y limit

\* col - colour

\* density. shading  $\text{density} = c(20, 30, 40)$



\* freq. - get the probability distri  
instead of freq.

freq = FALSE

\* las - to show the limit values horizontally

las = TRUE

\* border - set border

border = F

\* breaks - no: of cells we want.

- place where the break occur

\* count - no: of observations falling  
in that cell

plot[base]

## SCATTER PLOT

plot()

> plot(c(5, 6, 7, 8, 9))

> x = 1:5

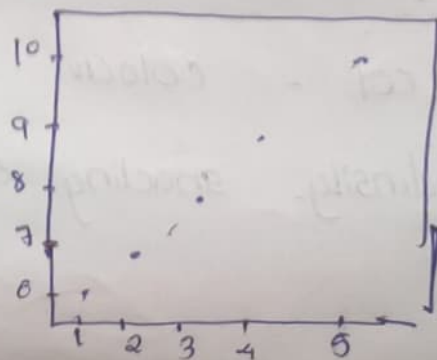
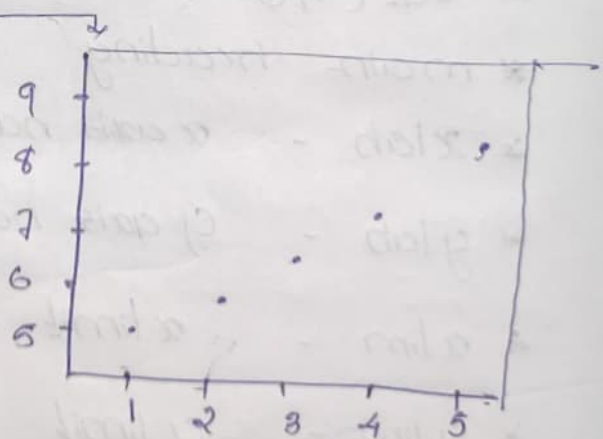
> y = 6:10

> plot(x, y)

\* main - heading

\* xlab -

\* ylab -



\* col - color

\* type - 'p' for points

'l' for lines

'b' both line & point — • —

'c' for lines part alone of 'b'

'd' over plotted — •

'h' for histogram

's' for stair

'g' "

'n' no plotting

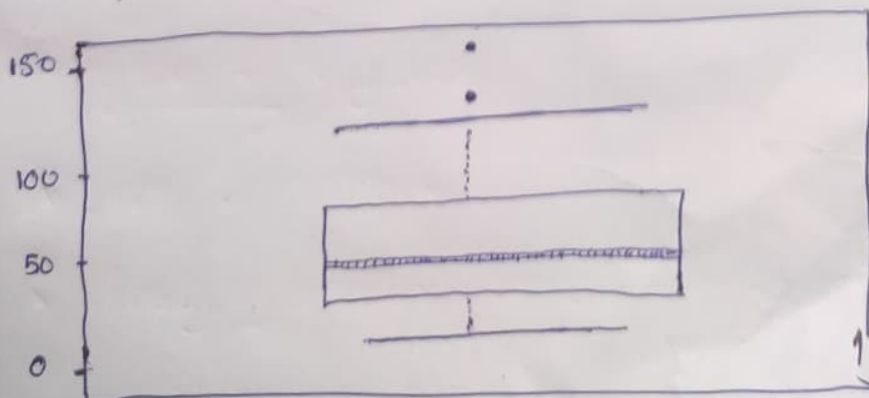
## Box plot

• quantitative data plotting

• function - boxplot

eg:

> boxplot (airquality 80zone)



- \* main
- \* xlab
- \* ylab
- \* col

\* notch - notch in the plot - notch = T

\* horizontal - : horizontal = T

display box plot horizontally

### multiple box plot;

> OZ = airquality \$ ozone

> temp = airquality \$ temp

> wind = airquality \$ wind

> boxplot (OZ, temp, wind)

\* varwidth:

- changes the box width

- varwidth = 1

> ~~box~~ borders - It change border color.

