

## 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 elmts. in the vector.

Eg: `temp = c(27, 26, 23, 24, 26, 28, 25)`  
`barplot(temp)`

`main` - heading

`xlab` - x axis name

`ylab` - y axis name

`name.arg` - name of each bar

`col` - color name of bar.

`horiz` - horizontal graph (`horiz = TRUE`)

`density` - shading (`density = 10`)

`border` - bar border color.

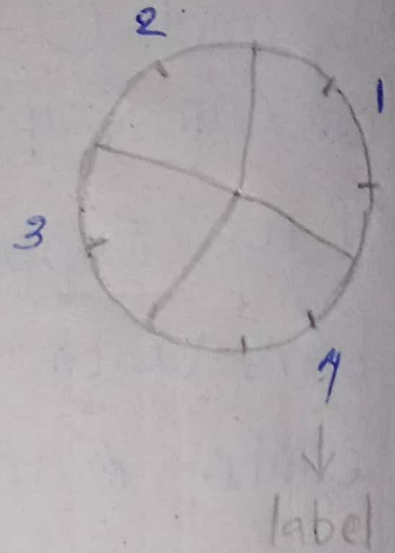
## Pie chart

function ; pie(x)

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

$y = table(x)$

$pie(y)$



- \* main :- heading
- >  $pie(y, main = "First")$
- \*  $x$  - input values
- \* labels - to give labels names for slides
- \* 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 = c(10, 20, 30, 40)` →  
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: `pie3D(y)`

> `pie3D(y, explode = 0.2)`

It make the pie chart into pieces.

## HISTOGRAM

quantitative data plotting

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

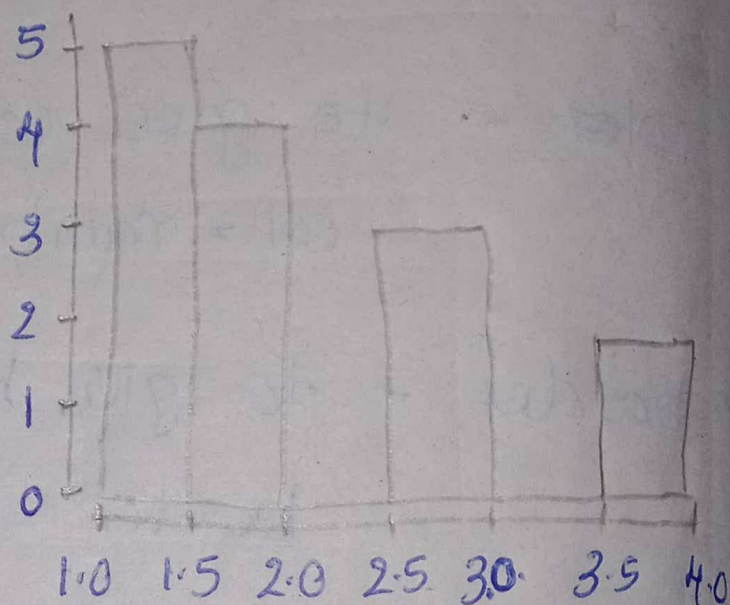
$y = table(x)$

> y

> x

1	2	3	4
5	4	3	2

> hist(x)



To see grouping ;

> cut(x, 6)

- \* main - heading
- \* xlab - x axis name
- \* ylab - y axis name.
- \* xlim - x limit
- \* ylim - y limit
- \* col - colour.
- \* density - shading. density = c(20, 30, 40)



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

freq = FALSE

\* las - to show the limit values horizon-  
tally.

las = TRUE

\* border - set border

border = F

\* breaks - no: of cells we want.

- place where the break occur

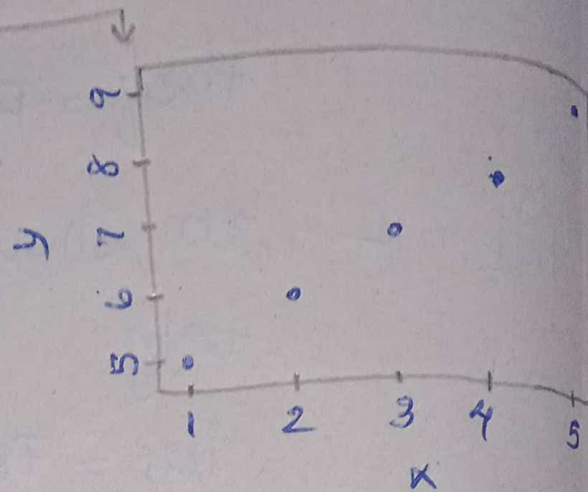
\* Counts - no: of observations falling  
in that cell.

plot[bare]

## SCATTER PLOT

plot()

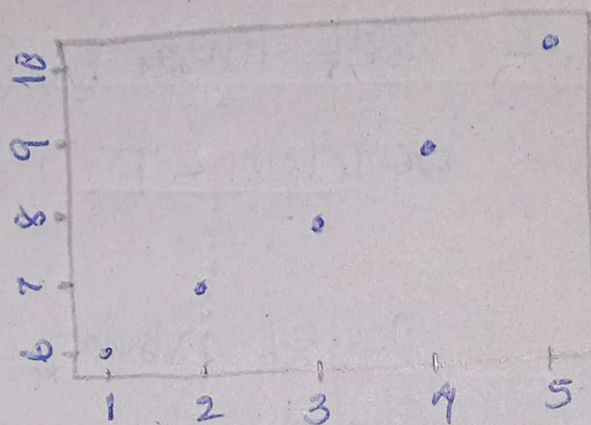
> plot(c(5,6,7,8,9))



> 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'

'o' over plotted —●—

'h' for histogram

's' for stair

's'

u

'n' no plotting.

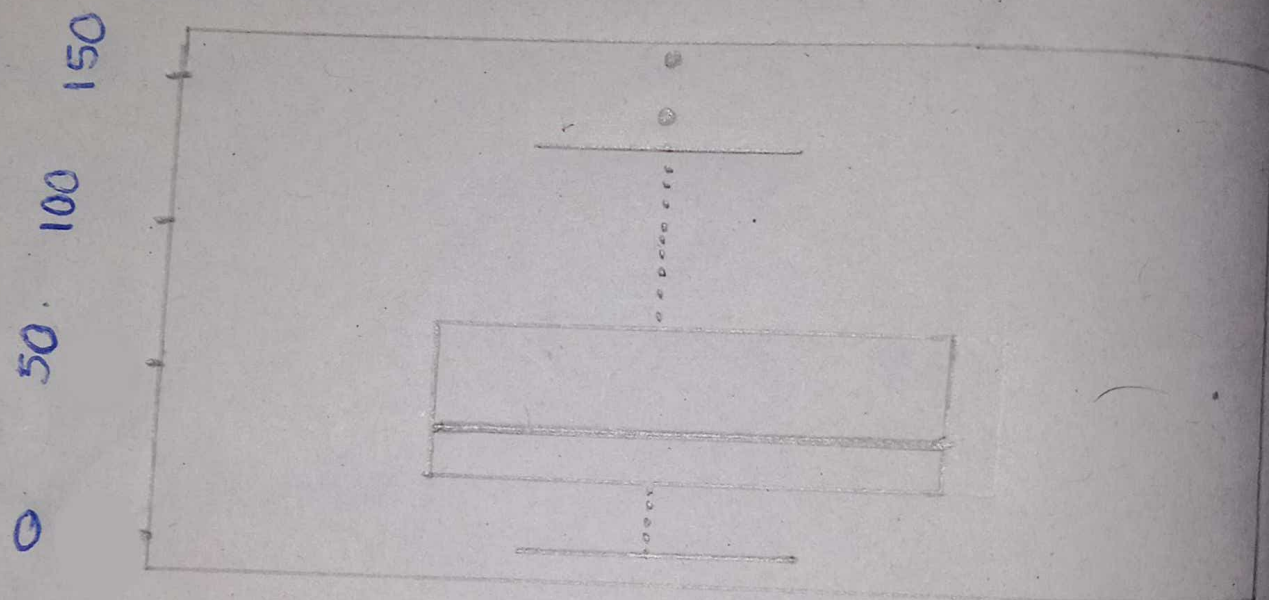


## Box PLOT

- Quantitative data plotting.
- function - `boxplot`

Example :

```
> boxplot(airquality$Ozone)
```



- \* `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

\* border - it change border color.