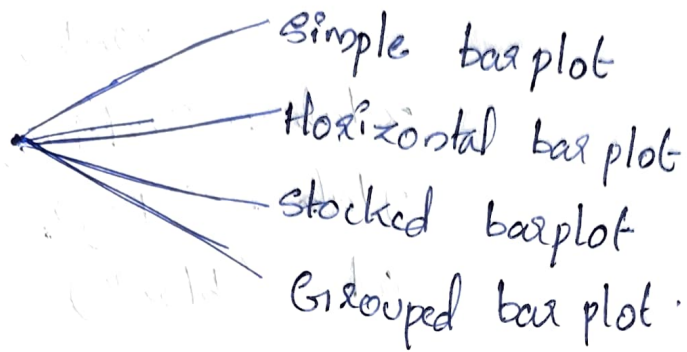


Module - 5

Graphs and charts.

Bar plots in R.



R Barplot.

- Created by using \rightarrow `barplot()` function.
- Inputs can be vector, matrix
- If we supply a vector, the plot will have bars with their height equal to the elements in the vector.

eg: `temp = c(27, 26, 23, 24, 30)`
`barplot(temp)`

Arguments used.

`main` \rightarrow used to give heading.

`xlab` \rightarrow x-axis name

`y lab` \rightarrow y-axis name

col \rightarrow give colour to bar

horiz \rightarrow TRUE (horiz - horizontal graph)

names.arg \rightarrow name of each bar.

eg: `temp = c(barplot(temp; main = "max temp in a week",`

`xlab = "celcius",`

`ylab = "Day",`

`col = "blue")`

space \rightarrow give space b/w bars

density \rightarrow give line inside box.

border \rightarrow border to bars

width \rightarrow size of bars.

eg: `x = c(1,1,1,1,1,1,2,2,2,2,3,3,1,1,2,2,3,3)`

`y = table(x)`

`barplot(height = y, width = c(5:8))`

OR

`(height = y, space = 5)`

OR

`(height = y, names.arg = LETTERS(1:3))`

OR

`(height = y, names.arg = letters(1:3))`

OR
(height = y ; name.arg = " ", (1:3))

Legend . text = T)

OR
(height : y ; " ", las = 1, 2, 3)

OR
barplot (height = y)

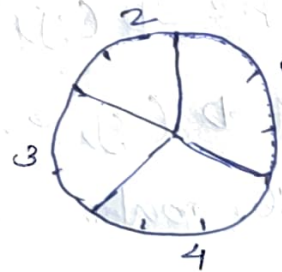
Pie chart

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 - propot values
- labels - to give labels names for slides
- edges - circular output 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 sl
- 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

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

y = table(x)

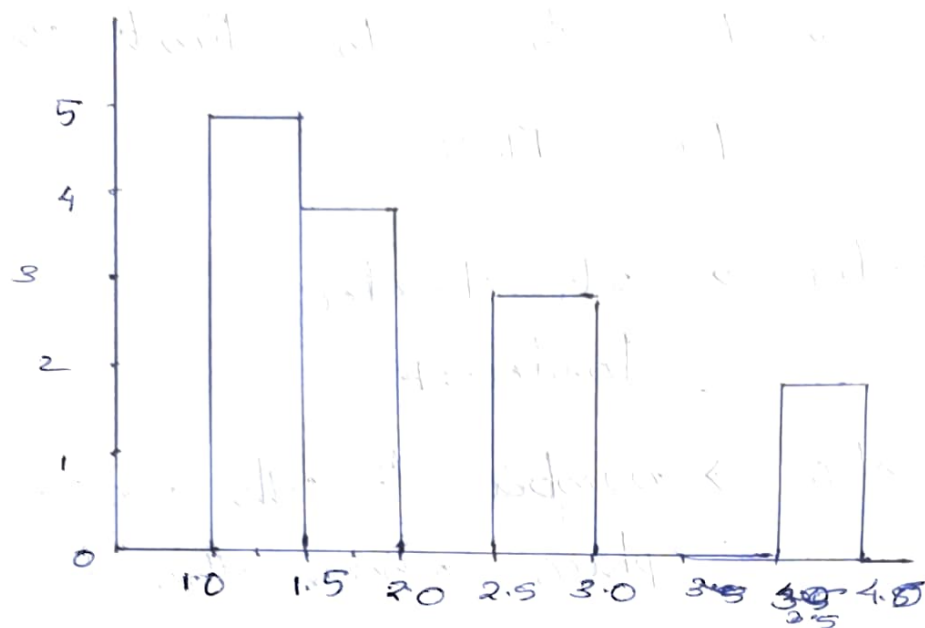
> y

> x

1	2	3	4
5	4	3	2

quantitative data plotting.

> hist(x)



To see grouping;
`>wt(x,6)`

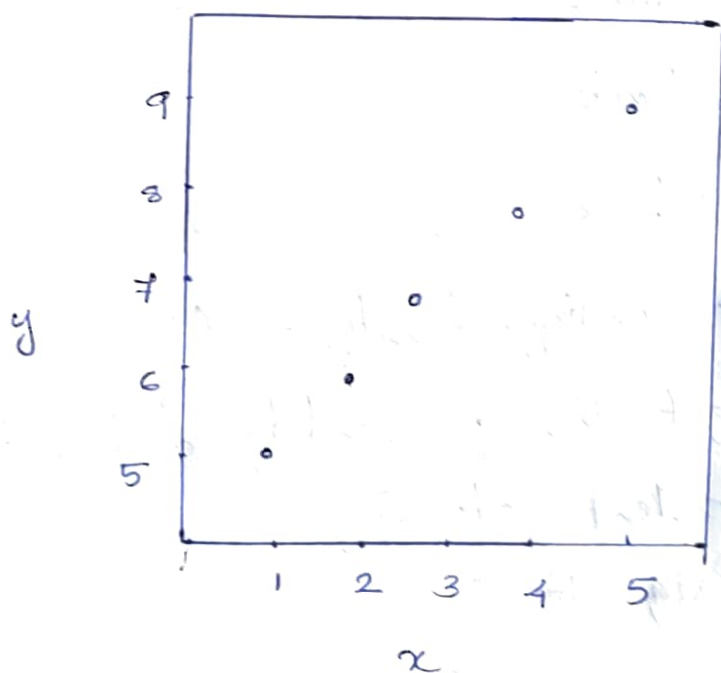
- `main` → heading
- `xlab` → x axis name
- `ylab` → y axis name
- `xlim` → x limit
- `ylim` → y limit
- `col` → colour
- `density` → shading. `density = c(20, 30, 40)`
- `freq` → get the probability distribution instead of frequency
`freq = FALSE`

- las \rightarrow to show the limit values horizontally
las = TRUE
- border \rightarrow set border
border = F
- breaks \rightarrow number of cells we want.
place where the break occur.
- counts \rightarrow no. of observations falling in that cell.

Scatter Plot.

plot()

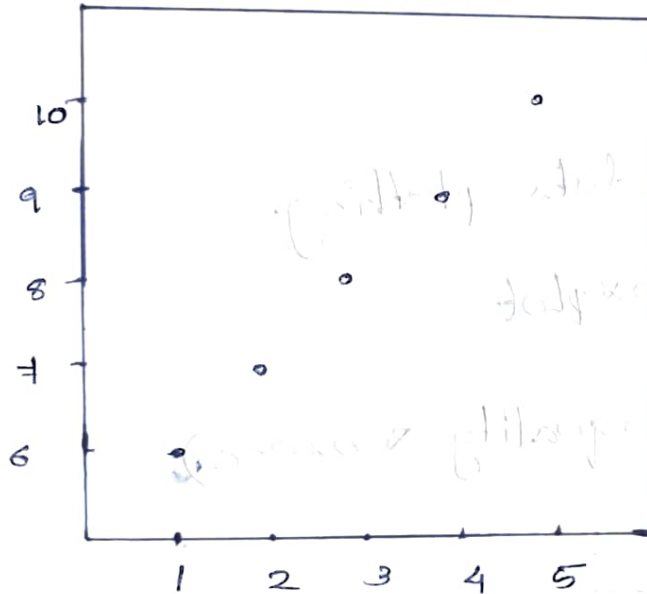
> plot(c(5, 6, 7, 8, 9))



> x = 1:5

> y = 6:10

> plot(x, y)



- main → heading
- xlab →
- ylab →
- col → colour
- type → 'p' for points
'l' for lines
'b' for both line and point —•—
'c' for lines part alone ~~for~~ of 'b'
'o' over plotted —•—

'b' for histograms

's' for stats

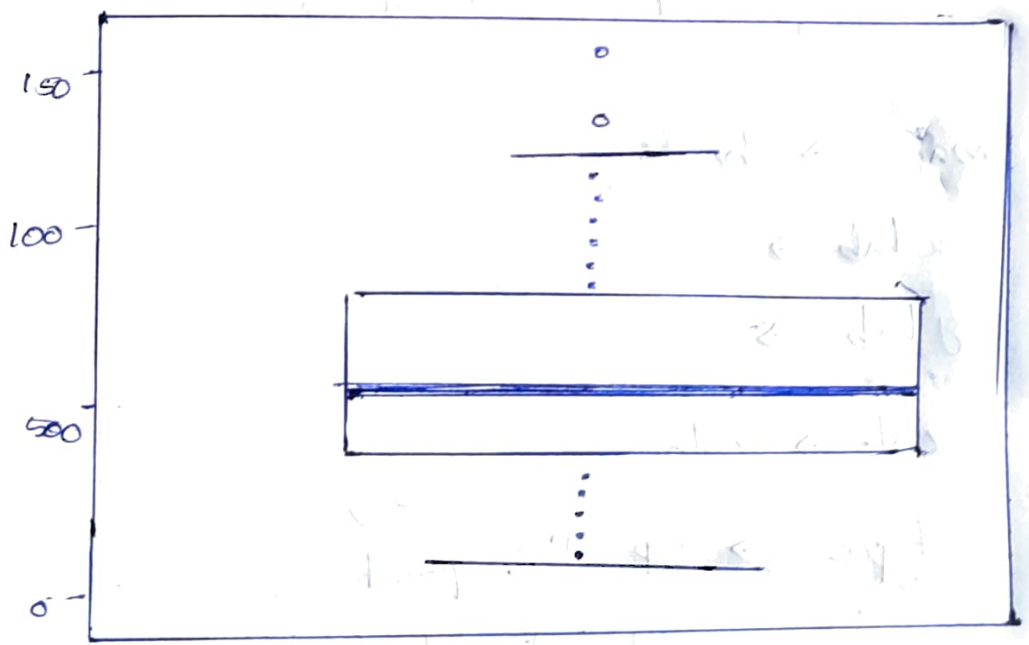
's' "

'o' for plotting.

Box plot.

- quantitative data plotting.
- function - boxplot

eg: > boxplot (airquality & ozone)



- main
- ^xlab
- ylab
- notch → notch in the plot - notch = T
- horizontal → display boxplot horizontally
horizontal = T

multiple box plot :

- > oz = airquality & ozone
- > temp = airquality & temperature
- > wind = airquality & wind
- > boxplot (oz, temp, wind)

- varwidth:

- changes the box width
- varwidth = 1

- border - it change border color.