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GRAPHICAL REPRESENTATION

BAR PLOTS IN R

Inputs can be vector, matrix etc.
The 4 types are:-

a) Simple Bar Plot
b) Horizontal "
c) Stacked "
d) Grouped "

R Bar Plot

* created by using → barplot() function

* 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)
```

barplot() argument:-
- main: heading
- xlab: x-axis title
- ylab: y-axis title
- names.arg: name of each bar
- col: gives colors
- density: splits each bar
- border: Gives border
- height: describing the box which makes up the plot.

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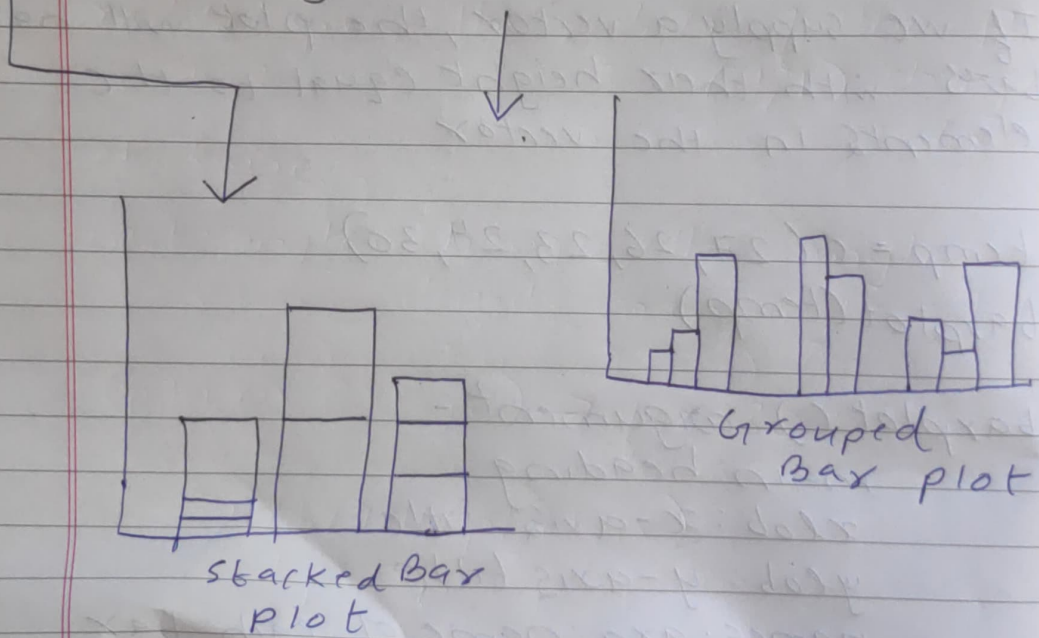
width: gives width to each bar
space: space b/w each bar
legend.text: gives logical indicating whether a legend should be included.
lab: lab = 1, 2, 3
names[]: gives the column heading
~~eg: data~~

Stacked Bar Plot (Bar plot which has matrix input)

eg
```
y1=table(mtcar$cy), mtcars$gear)
barplot(y1)
barplot(y1, legend.text=T, beside=T)
```



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angle : the slope of the shading lines
par(mfrows = c(2,2)) : gives two row and two columns

par(mfrows = c(1,1)) : default.
barplot(y, col = c(10,12,13))
⇒ gives each bar each colour.

barplot(y, col = rainbow(1))
⇒ gives a colour in the raindow

barplot(y, col = rainbow(5#1, n: 15)
→ gives the lightest color

border. F : without border
border. T : with border
xlim : limit for the x-axis
ylim : limit for the y-axis

expressions(sum(1)) gives the heading.

⇒ barplot(y, main: expression(x+y)
(alpha)
(beta)

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Piechart

pie() function

eg: x = c(1,1,1,2,2,3,3,4,4,4)
y = table(x)
pie(y)

Arguments

x: input values
~~Labl~~ Labels: Giving names for the slices
Edges: the circular outline of the pie is approximated by a polygon with this many edges (default: 200)

radius: gives the radius of the pie (-1,1) change the direction

~~clockwise~~:

init.angle: changes the angle

density, main, angle, col, border

(plotrix package) → for 3D

⇒ library(plotrix)
? pie3D

pie3D() function (for 3D piechart)

explode:

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Histogram

hist() function

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

cut(x,6) : shows the interval

```
data("cars")
head(cars)
hist(cars$speed)
```

breaks : one of a vector giving the breakpoints b/w histogram cells

breaks = 22 : 22 int's (No of columns)

xlab, ylab, main, xlim, ylim, col, freq

Return value of hist()

h ← hist(temp)

h

breaks : plaies where the break occur

counts : the no of observations falling in that cell

density : density of the cells

mids : midpoint of the cell

xname : the x-argument name

equidist : a logical value indicating if the breaks are equally spaced or not.

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Breaks: we can specify the no of cells we want in the histogram and we can also give vectors

Scatter Plot

plot() function
Generic x-y plotting

plot(1,2,3,4): plot the values in (1,1),(2,2)(3,3)(4,4

plot(5,6,7,8): plots the values in (1,5)(2,6)(3,7),(4,8)

eg
```
x=1:5
y=6:10
plot(x,y)
```

values are plotted by (1,6),(2,7)(3,8),(4,9),(5,10)

arguments: main, xlab, ylab, col

type="p", points o o o

"l", lines ——

"b", both —o—o—

"o", overplotted o—o—o

"c" for the line alone of

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"h" - histogram

"o s", stair steps

"s", other steps

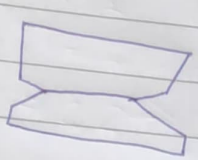
"n", no plotting

Box plots

boxplot() function

Arguments: main, xlab, ylab, col

notch = T



horizontal = T, represents as horizontal

barplot (or, temp, wind)

↳ gives 3 plot in one plot

varwidth = 1

border