Module : 5

GRAPHS AND PLOTS

Bar plots

* Create using barplot()

Arguments

* main - heading
* xlab - x name
* ylab - y name
* names.arg → bar name
* density - shade
* border - *
* col - color
* horiz

Plotting categorical data

```
age ← c(17, 18, 18, 17, 18, 19, 18, 16, 18, 18)

table(age)
 16  17  18  19
  1   2   6   1
```

eg: barplot(table(age), main = "age of students",
xlab = "age", ylab = "count", border = "red",
col = "blue", density = 10)

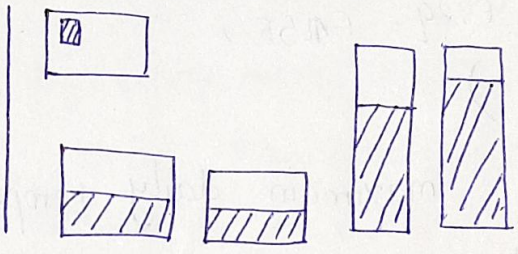
Higher dimensional tables

We have a build in dataset called titanic It have 4 dimensions. we can plot according to the data barplot (titanic.data, main="Survival of each class", xlab="class", col=c("red","green")

)

legend ("top left", c("not survived", "survived"), fill = c("red", "green")

Survived of each class



class

2. R Histograms

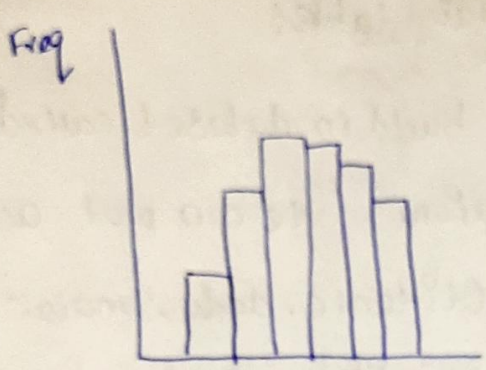
Created using hist() function.

This takes a vector value. creating a vector value.

creating a histogram using dataset airquality.

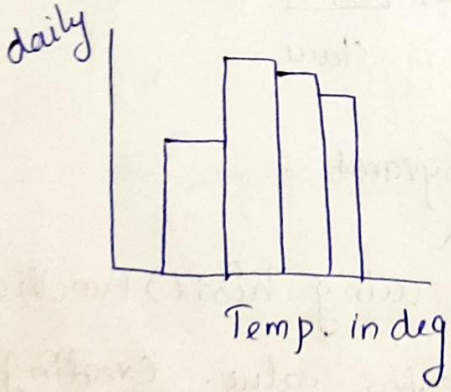
Temperature ← airquality $ Temp

hist (Temperature)



Parameters can be added like

```
hist(Temperature, main='maximum daily temperature",
    xlab= "Temperature in degree",
    xlim= c(50,100), col= "dark blue",
    Freq = FALSE,
    )
```



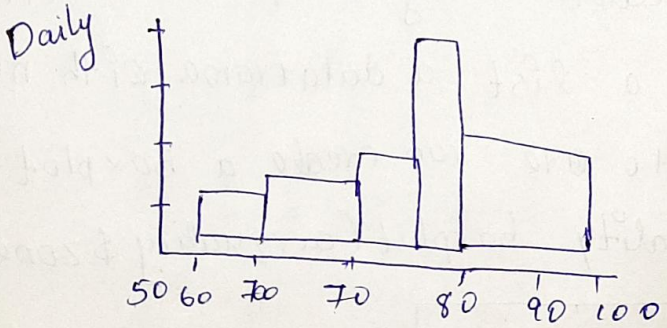
Return value of R, hist() returns 6 Components

```
> b ← hist(temperature)
> $breaks, $count, $density, $mids
```

$ xname, $ attr (, "class"), $ equidist

* breaks - places where the breaks occur.
* counts - no. of observations falling in that cell
* Density - the of cells.
* Mids - the midpoint of cells.
* xname - the x argument name
* equidist - a logical value indicating the breaks are equally spaced or non-uniform width.

hist (Temperature, main = "maximum daily temperature", ~~xlab = "main"~~ xlab = "Temperature in Farenheigh", xlim = c(50, 100), col = "chocolate", border = "brown", breaks = c(55, 60, 70, 75, 80, 100)



3. R pie chart

Created using function pie().

let expenditure

housing	Food	clothe	entertainment	other
600	300	150	100	200

Pie (expenditaue), with parameters pie(expenditu,

labels = as.character (expenditure),

main = " monthy" expenditure"

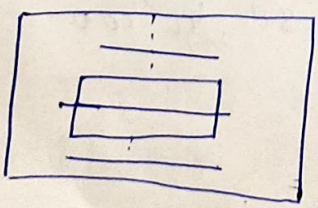
col = c("red", " orange, "blue", " pink', "grey")

)

4 R boxplot

created using boxplot() function

are can pau a list a dataframe with nume ric vectors to we can create a boxplot with dataset airquality boxplot (airquality $ zone)



Parameter are,

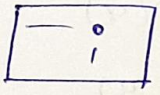
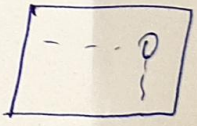
```
boxplot ( airquality$zone,
    main="mean ozone in ppt",
    xlab="parts per billion",
    Ylab="ozone",
    border ="brown",
    horizontal = TRUE
    nol = TRUE
)
```

Return value are =>

* n- number of observation is drawn
* conf - upper, lower extremel of notch
* group - a vector of same length
* namel - a vector namel for the group.

5. Scatter plot

plot(), Simple Scatter plot.

eg: plot() *  plot(3) 

eg: head (airquality)

temp: airquality$Day

day : airquality$ Day

temp: airquality $ Day

Plot (day, temp)

with arguments

y = 21:30

Plot x, y

plot(x, y, main = "Scatter plot")

xlab = "x value"

Ylab = "y value",

col = 1:10)

what - type should be shown are

P - point, l - line, b - both, 0 -

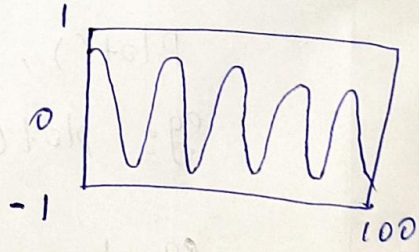
S - steps, c - without - bubble, b - histogram

n - none to display

eg: X - 1:100

Y = sin(x)

Plot (x, y)



Plot (x, y, type = "l")

eg: x = seq(0, 10, 0.01

y = sin(x)

Plot (x, y, type = "l")