5/5/22

(1)

Experiment-2

Getting Used to R: Describing Data

a. Viewing and manipulating Data.

In R we have some Special features for Viewing and manipulating Data.

Eg:- getwd().

It will returns Current directory or Working directory window.

Eg:- getwd();

View():

Is used to give View any function or Variable data.

Eg:- View(Data).

Head():

It will returns top of the Variables or Data Frames in any ".csv" file (or) Data.

Eg:- Head(Data).

Tail():

It will returns remaining (or) Lost Data Frames in any File.

Eg:- Tail(Data).

Str():-

It is used to find structure of the Data set.

Eg:- Str(Data).

Eg:- min(Data $ V1).
max(Data $ V2).
Range(Data $ V2).

Data Manipulation:-

To perform D.M we use a package called "dplyr". This package consits some data about flights as a Data set. This dplyr package used to transform and summarized Tabular Data with rows and columns.

1. Select():-

It is used to select the column Variables based on their names.

2. Filter():-

It Filters rows based on their values.

3. Arrange():-

To change ordering of the rows we use arrange function.

4. Summary():-

It reduces multiple values down to a single

Summary:

5. Mutate():-

It is used to create columns that are functions of existing variables.

Programm:-

```
install.packages("dplyr")
library(dplyr)
install.packages("nycflight13")
library('nyc flights 13')
View(flights)
head(flights)
f1 <- filter(flights, month==07)
View(f1)
View(filter(flights, month==09, day==9,
        origin=='LGA'))
slice(flights, 1:5)## select rows by
position
over-delay <- Mutate(flights, overall-
    delay=arr-delay - dep delay)
View(over-delay)## Mutate is used to create
new column
over- delay <- transmute(flights,
    overall-delay = arr-delay - dep-delay)
    # used to show only new column
```

View(over1 - delay)

Summarise (flights, avg-air-time = mean(air-time . na.rm=T))

View (arrange (flights, year, dep-time))

sort data set.

Experiment - B

Plotting Data

Plotting:-

plot function is used to Draw points in a diagram.

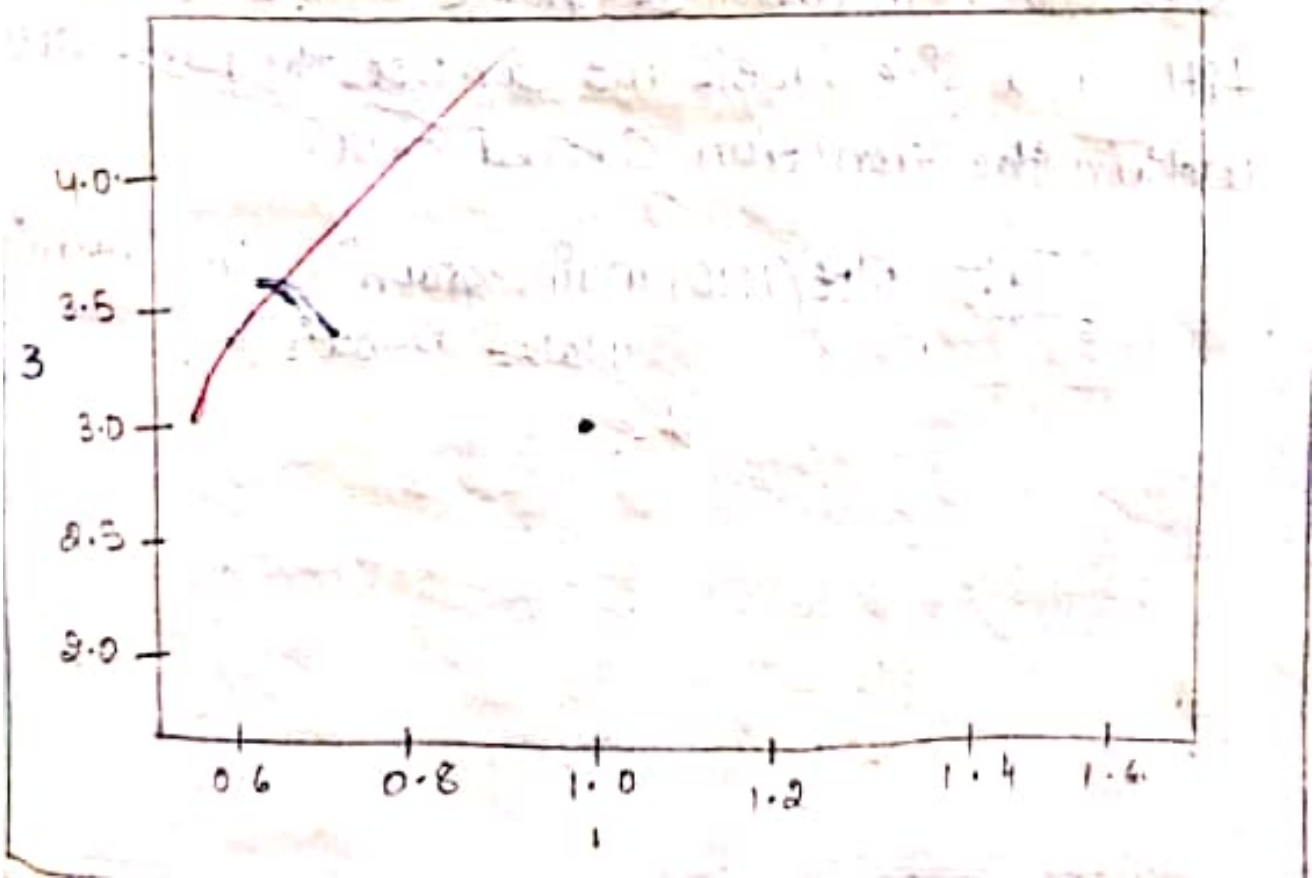
Eg:- plot (1, 3)

x ← 1

y ← 3

plot (x, y)

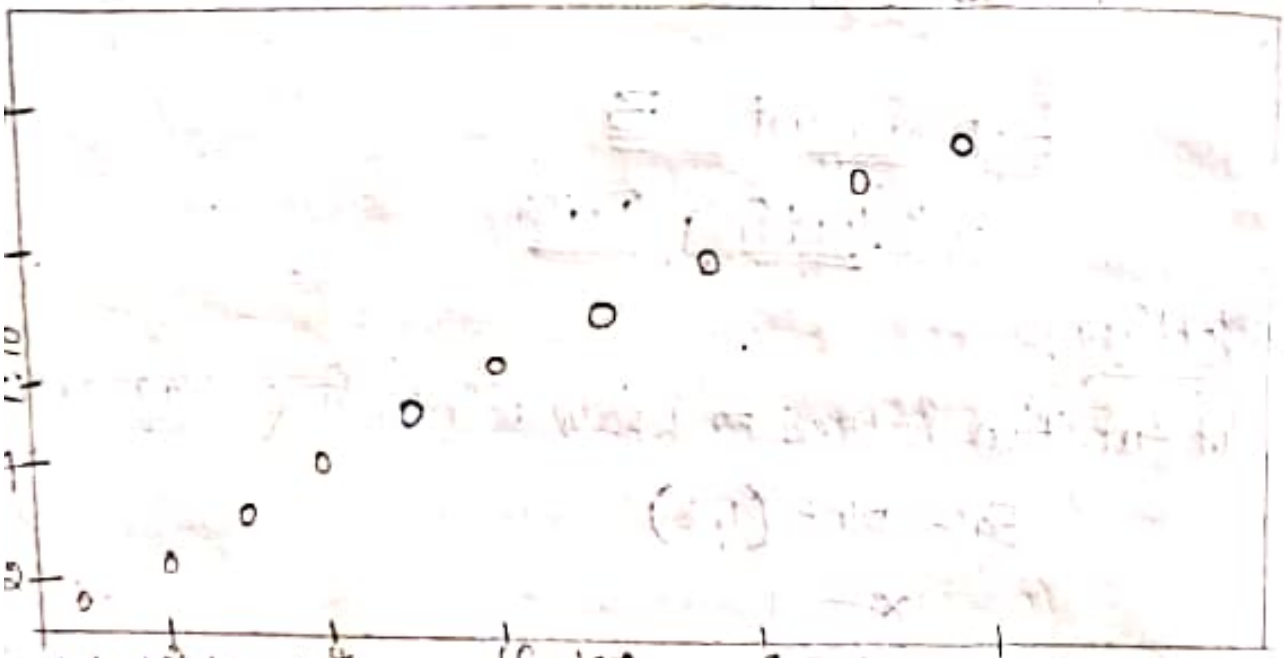
plot (c(1,3), c(4,5))



Sequence of Points :

We can also create Sequence of points by using : Operator :

Eg:- plot(1:10)



Plot Tables :- In function called plot also accepts other parameters such as main, xlab, ylab. To customize Graphs with a main title and side labels we can use the parameters within the function called plot.

Eg:- plot(1:10, main="Graph", xlab="x-axis", ylab="y-axis").

Graph appearence :-

We can also use colores for the diagram of Graph by using Parameter Called col

Eg:- plot (1:10, col="red").

Size:

We can also change the size of point by 0.5 means 50%, 1 as default, 2 means 100% larger. Use the Parameter Called "cex"

Eg:- plot (1:10, cex=2).

Point shape :- you use parameter called pch with a value from 0 to 25 to change the Point Shape format use

Eg: pch = 22, cex=2

Line Graph: It will connects all the points in a graph.

Eg:- plot(1:10, type="l").

Line colour: We use col parameter the plot function.

Eg:- plot(1:10, type="l", col="Red").

Line width: We can also use Parameter Called lwd in plot function. lwd refers line width.

Eg:- plot(1:10, type="l", lwd = 2).

Line style: We can use parameter called lty used for to specify line style in a Graph

Eg:- plot(1:10, type="l", lwd=5, lty=3).

Line styles number ranges from 0 to 6.

Multiple Lines :- We can also use multiple lines.

Eg:- Line1 <- c(1,2,3,4,5,10)
Line2 <- c(2,5,7,8,9,10)
plot(Line1, type="l", col="blue").
Lines plot(Line2, type="l" col="red").

Experiment-c.

Reading Data from console file(.csv) local disk and web.

Convert any Excel files into (.csv) files by using any online converter (or) free Sample files from web.

Getwd(): It will returns path of the current working directory.

Eg:- getwd()

Setwd(): Is used to set path for "R" working directory.

Eg:- setwd().

read.csv(): Is used to read(.csv) files

Eg:- read.csv(" ").

```
Data <- read.csv("c:/Path").
        View(Data).
```

Reading Data from web

```
Data <- read.csv
        ("weblink.csv")
```

```
Data 1 <- read.csv(url("weblink.csv"),TRUE).
```

Install readr. package.

	X1	Eldon · Base-for · stackable.	Muhammed·Macin	x3	X·213·35	X38·14	X35	Nunavut	Storage·
1	2	1·7 cubic foot compact "cube"	Barry French	293	457·81	208·16	68·02	Nunavut	Appliances
2	3	Cardinal slant-D® Ring Binder	Barry French	293	46·71	8·69	2·99	Nunavut	Binders
3	4	R380	Clay Rozendal	483	1198·97	195·99	3·99	Nunavut	Telephones
4	5	Holmes HEPA Air Purifier	Carlos Soltero	515	30·94	21·78	5·94	Nunavut	Appliances
5	6	G·E· Longer-Life Indoor	Carlos Soltero	515	4·43	6·64	4·95	Nunavut	Office
6	7	Angle-D Binders with Locking	Carl Jackson	613	-54·04	7·30	7·72	Nunavut	Binders
7	8	SAFCO Mobile Desk Side	Monica Federle	643	+127·70	42·76	6·53	Nunavut	Storage

Experiment - D

Working with Larger Data Sets.

Go to any browser and search for larger Data sets ending with file format as .csv Download the larger Data set and move the file into r working directory. To access the file used read.csv function.

```
Data 2 ← read.csv( url("weblink.csv"),
                    TRUE).
```

```
Library ( Data 2 . Table)
```

In order to read the Data frames used F read function.

```
Data 3 ← fread ("filename . csv").
```