Functions -
vec<-c(1,2,3)
arr<-data.frame(vec,col2,col3) // to create a df
arr$vec - to access one col in df
arr$vic<-arr$a/arr$b //will make a col which has ratio of col a and b value
View(arr)
mean(arr$a) //mean of that col
plot(x,y) - x has to be listed first
write.csv(df,"df.csv", row.names=False)
Import csv on right top console to import any data/df OR
df<-read.csv("file path.csv"), then view to see
data() to see default existing dfs in r
Clear shortcut - ctrl + L
To see whatall packages are installed - library()
install.packages("MASS")
fractions(a/b) - gives in fractional form
a/b gives decimal form
Running script - ctrl+shift+enter
to comment
Click Source to run - gives line by line execution in bottom left - will also give the source in first line in console. Can use this line at the start of another r script to load this file
Highlight -> run only runs the selected lines - shortcut for run = ctrl+enter
Ctrl+ shift+N for new script

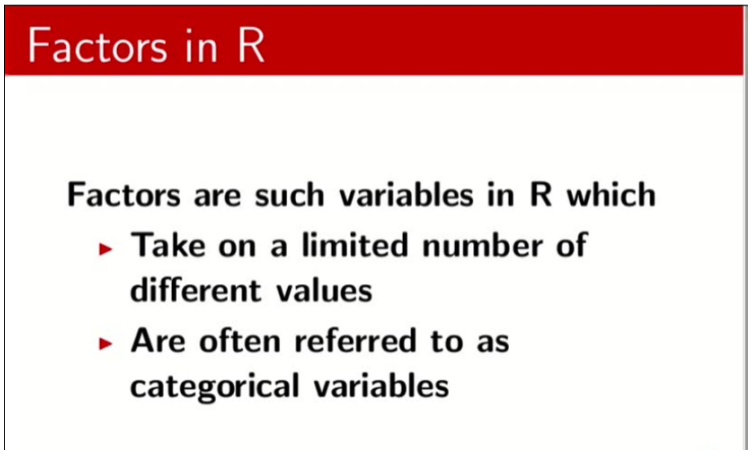
Log10(10^5) = 5 for log base 10 otherwise e hoga base
z=seq(-1,2,0.5) - vector starting from -1 to 2 with steps of 0.5 - both -1 and 2 are included
length(z) gives length of vector
y=sin(x) where x is a vector - works. Can plot plot(x,y,type="l) for line plot
If x and y vector lengths are diff error aa jaega when we try to plot
Without type="l" points dikhenge individual on the plot
setwd("../desktop/folder") - to set working directory, now this will come under files
To extract a col - df[3]; to extract a row - df[3,] . c(2,3) instead of just 3 will give 2 and 3 rows combined (c=concatenate). Df[1:3,] will give first three rows
Logical indexing - extracting information from df - eg if c[3 col][i row] has 24 value then what is the value of c[1 col][i row]. Eg. df[df$played==25,] will give the row having 25 value at played col
Df["x"] to print col with x heading
Slicing df - extracting only fav values subdata <- subset(df,a>0.3,select=c("x","y")) - only x and y columns of the rows having value of col a >0.3 will be printed - will go in subdata
Df[[4]][3] - col 4 row 3 value will be printed
rm(list=ls()) - to clear r env of all prev declared variables
m=as.matrix(df) - df should only have numbers obv. Col names are okay
Vector se matrix m convert - v<-c(1,0,0,0,1,0,0,0,1)
m<-matrix(v,nrow=3,ncol=3,byrow=TRUE) - rowwise arrange karega v vector into m matrix

Multiplication element by element = m*n for m, n matrices
Matrix mul- row mult with col - m%*%n
t(m), det(m)
Inverse of matrix - solve(m)

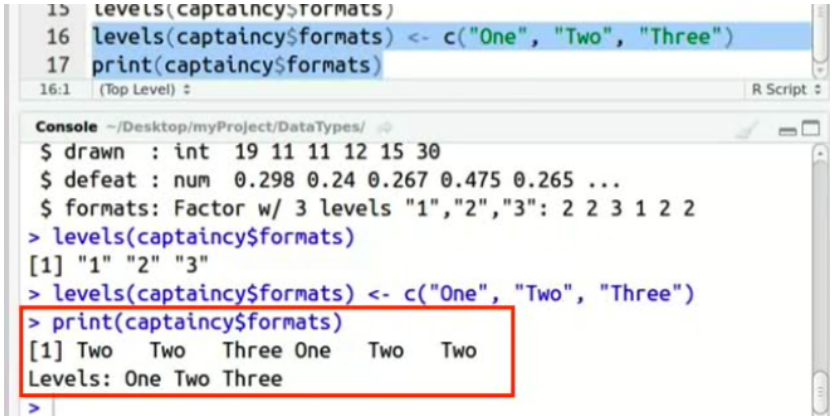
Operations on matrices and df video
startTime <- Sys.time()
for(i in 1:3)
sum(m) - calc sum of all elements in matrix m
rowSums(m), colSums(m) for row and col sum
df<-rbind(df,data.frame(x="fhjdsn",y=2))
df<-cbind(df,var) , where var is a 1d vector

Merging and importing data video
summary(cap) - prints details of each col
class(cap) - data.frame
typeof(cap) - list - how it is stored in r internally
head(cap,2) - top 2 rows, same for tail()
str(cap) - structural details of cap
x<-merge(df1,df2,by="x") - x col k hisaab se merging dfs
v<-xmlToDataFrame("fds.xml")
library(XML) on top of r script so that xmlToDF type commands can work (loading)
v<-read.table("sds.txt")

Data types and factors
Atomic data types - vector holds data of single data type - smallest unit value kya kya ho sakti hai
TRUE=logical, "TRUE" =character
class(TRUE) is logical
12 will be numeric unless v<-as.integer(12) , now integer when invoked with class
as.character()



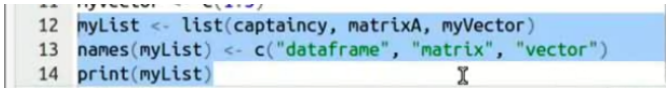
levels in factor means diff values in that col (when type of col is factor)
Eg. col format - one day int, t20 etc denoted by 1 2, r read it as int but we want to change the class to format. So v<-factor(df$a) . levels will be 1 2 etc
levels(df$a)



Lists and its operations
v<-c(1:5) default 1 step size lega
list can have these elements -

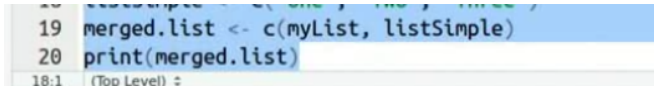
1. List
2. Matrix
3. function

Vector having all elements of same type - atomic vector
^ Diff type - list



named list

myList[2] will give u matrix. myList[[2]][,3] - 3rd col of matrix



merging lists like this

AllLines = readLines("MaritalStatusAgeWiseIndia.csv") and read.csv()