

Util Functions

`data = read.csv(file.choose())` Opens file explorer to get data

`setwd("Path")` Sets the working directory

`getwd()` Gets the working directory

`str(variable_name)` Structure of the variable

`ls()` Lists the variables

`rm(variable_name)` Removes the variable

`help.start()` Opens help

`library("Package Name")` Makes it available for the use

`install.packages("Package Name")` Installs package

`detach("Package Name")` detaches the package

`history()` Shows the history

DataFrame

`d=data.frame(Roll No=1:3, gender=c("F","M","F"), Grade=c(8,4,7))` Input Dataframe - length should be equal

`view(d)` Opens Editor

DataFrame (cont)

`summary(d)` Provides the descriptive statistics

`head(d)/tail(d)` Displays the top or bottom rows

Strings

`toString(x)` To produce a single character string

`toupper(x)/tolower(x)` Changes from upper to lower case and vice versa

`strsplit(word, character, fixed=TRUE)` Splits the word based on the character given

`substring(word, startpoint, endpoint)` Retrieves or replaces the substring of the character

Arrays

`1D = array(1:24)` 1 dimensional array

`2D = array(1:24, dim = c(6,4))` 2 dimensional array

`3D = array(1:24, dim = c(4,3,2))` 3 dimensional array

`dim(2D)` nrow(2D)

`ncol(2D)` length(2D)

Vectors

`num = c(1,2,3,4,5,6)` numeric vector

`chr = c("aaa","bbb")` character vector

`log = c(TRUE,TRUE,FALSE)` logical vector

`mean(vector)` mean

`sd(vector)` standard deviation

`var(vector)` variance

`range(vector)` range

`which.min(vec)/which.max(vec)` Finding the minimum and maximum values in the vector

Matrix

`mat = matrix(1:12, nrow=4, ncol=3)` matrix

`cbind(mat1,mat2)` column bind

`rbind(mat1,mat2)` row bind

`det(matrix(c(1,0,0,1),2))` Determinant

`solve(A)` Inverse

`A%*%B` Matrix Multiplication



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Lists

`x<-list(c(1,2,3),c("A","B","C"))` Collection of Elements

`x[[1]]` First row

Descriptive Statistics

`colMeans(data[])` column mean

`colSums(data[])` column sum

`rowMeans(data[])` row mean

`rowSums(data[])` row sum

Hypothesis

`t.test(data)` 1 sample t test

`t.test(data1,data2)` 2 sample t test

`t.test(pre,post,paired=TRUE)` paired sample t test

`cor.test(data1,data2)` Correlation

`chisq.test(data)` Chi square

`aov()` ANOVA

`wilcox.test(data)` Wilcox test

`shapiro.test(data)` Shapiro test

`prop.test` Testing proportions

Visualization

`qplot(data, line=TRUE,...)` produces quantile-quantile plot

`qqnorm(column)` produces quantile-quantile plot

`barplot(table)` Relationship between a numerical and a categorical variable

`boxplot(x,data=)` Distribution

`ggplot(data = NULL, mapping = aes(), ...)` initializes a ggplot object

`geom_bar()` bar graph

`coord_flip()` flip x and y coordinates

`facet_grid()` lay out panels in a grid

`geom_density` density plot

`geom_hist` histogram

`geom_point` scatter plots

`hist(column)` normality test

`pie(table(tablename))` piecharts

Loops

`for (variable in sequence){ Do something }` for loop

`while (condition){ Do something }` while loop

`if (condition){ Do something } else { Do something different }` ifelse statement

Probability

`runif(n, min = 0, max = 1)` Uniform

`rnorm(n,mean,sd)` Normal or Gaussian

`rexp(n)` Exponential

`rbinom(n, size, prob)` Binomial

`rpois(n,size)` Poisson

Data Table

`library(data.table)`

`class(x)`

`head(x)`

Statistics

`fit <- lm(y ~ x1 + x2 + x3, data=mydata)` Regression summary(fit)

`glm.fit(y ~ x1 + x2 + x3, family="", data=mydata)` Classification

`kmeans(data)` Clustering



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