Cheatography

R - Basic Cheat Sheet

by Nancy Augustine via cheatography.com/67230/cs/16859/

Util functions

getwd()	Get working directory
setwd()	Set a path in working directory
ls()	list the memory content
rm()	remove variable from memory
install.packages()	Installs the required package
library()	Makes the package available for usage
str()	shows the structure of the variable
detach()	removes the package
history()	displays the executed commands in the session
help.start()	opens the index page of R

Data Frame

data_frame = data.frame(subjectID=1:5,gender=c("M","F","M","M","F"),score=c(8,3,6,5,5))	Data frame with elements of equal length
view(data_frame)	opens the editor
rbind(data_frame1,data_frame2)	combines two data frames vertically/row wise
cbind(data_frame1,data_frame2)	combines two data frames horizontally/column wise
head(data_frame)/tail(data_frame)	returns the first / last part of the data frame
summary(data_frame)	returns the descriptive statistics

Strings

toString(x)	produces a single character string
tolower()	converts text to lower case

Strings (cont)

toupper()	converts text to upper case
substr()	extract or replace a substring in a character vector
paste (…, sep = " ", collapse = NULL)	concatenate vectors after character conversion

Arrays & Matrices

one_d_array<-array(1:15)	one dimensional array
two_d_array<-array(1:15,dim=c(3,4))	two dimensional array
3_d_array<-array(1:15,dim=c(3,4,2))	three dimensional array
mat1=matrix(1:15,nrow=5,ncol=3)	creates a 5x3 matrix
cbind(mat1,mat2)/rbind(mat1,mat2)	column bind/row bind
solve(mat1)%*%mat1	Inverse of a matrix
det(matrix(c(1,0,0,1),2)	determinant of a matrix

Vectors

scores<-c(3,4,6,7,5,8,6)	numerical vector
names<-c("Nancy","Selvarani")	character Vector
x<-c(TRUE,TRUE,FALSE)	logical vector
mean(scores)	mean of the score vector
sd(Scores)	standard deviation of score vector
var(scores)	variance of the vector
range(scores)	range of the vector
which.min(vector)/which.max(vector)	returns the position of the min/max value
rep(1:4,times=2)	replicates the elements of the vector twice

Lists

list<-list(c("Nancy","selvarani","Aravind"),c(25,23,26))	creates list with elements of diff data types
names(list)<-c("Names","Age")	names the elements in the list

Descriptive Statistics

summary(mydata)	description of mydata
rowMeans(mydata[])	returns the row mean value
colSums(mydata[])	returns the column sum

Hypothesis Testing

t.test(data1)	one sample t test
t.test(data1,data2)	two sample t test
t.test(pre,post,paired=TRUE)	paired t test
prop.test	test for diff between 2 proportions
cor.test(data1,data2)	correlation
wilcox.test(data1)	Wilcox test
chisq.test(data1)	chi square test
shapiro.test(data1)	test for normality
aov()	ANOVA

Visualization

ggplot(data = NULL, mapping = aes(), ...)	initializes the plot object
qplot(data, line=TRUE,...)	quantile-quantile plot
geom_density()	density plot
geom_hist()	histogram
geom_point()	Scatter plots
geom_bar()	Bar graph
facet_grid()	panel layout in a grid
barplot(list)	bar plot

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Probability	
rnorm(n,mean,sd)	normal distribution
runif()	uniform distribution
rpois(n,size)	poisson distribution
rbinom(n,size,prob)	Binomial distribution
rexp(n)	Exponential distribution

Statistics	
lm(y~x,data=mydata)	linear regression
summary(lm(y ~ x1 + x2 + x3, data=mydata))	multiple regression
summary(glm(y ~ x1 + x2 + x3, family="", data=mydata))	classification
predict(object,mydata)	Regression model
cl$cluster	Clustering
cluster=kmeans(mydata)	K means cluster analysis

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