Functions covered in R-Bootcamp

Function	Description	important arguments	Example
seq	generates sequences	from, to, length.out (=number of variables), by (=steps)	seq(length.out = 13, from=0, to=10)
rbind/cbind	concatenates rows or columns		rbind(1:5,6:10)
matrix	generates matrices, stores data in rows/colums Contains one data type	nrow, ncol, data (= usually sequence), byrow=if true matrix is filled with the data by rows	matrix(nrow = 2, ncol = 5, data=1:10, byrow=FALSE)
data.frame	generates a data frame, stores data in rows/colums Contains one data type per column, can contain several data types in the data frame	object	data.frame(job, salary, satisfaction, field.exists.since, field.old)
list	generates a list, which can store objects of different classes and dimensions	object	list(A="a",num.vec=10:5)
paste	concatenates strings		paste("case",1:10)
rep	replicate values a defined nr of times	times = times the values in x are repeated length.out = lenght of vector	rep(x=c(1:3), times=5, length.out=14)
args	fast way to get the arguments of a function		args(rnorm)
read.table	imports a table (txt/dat)	header = TRUE or FALSE	read.table(file = "../Framingham.dat", header=TRUE)
read.csv	imports a csv	header = TRUE or FALSE	read.csv(file = "../birthrates.csv", header=TRUE)
head	shows first rows of a dataframe		head(birthrates)
str	shows structure of an object		str(birthrates)
plot	generates a plot	minimum: define values for x and y	plot(y = Puromycin$rate, x = Puromycin$conc)
abline	add a trendline to a plot		
table	creates table of counts and factors		
ggplot	make fancy plots	package = ggplot2	see ggplot cheatsheet
pairs	visualise scatterplots for every variable paired with another		

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lm	linear model	minimum: define values for x and y	lm.iris <- lm(Sepal.Length ~ Sepal.Width, data = d.iris.2.sp)
summary	get results of analysis		summary(lm.iris)
is.na	Tells you which positions have a NA	dataset	is.na(v)
anyNA	Tells you if there is a NA in the dataset	dataset	anyNA(v)
mean	calculates mean	objects	
apply	applies functions to vectors	dataset and function	apply(airquality, MARGIN = 2, FUN = anyNA)
boxplot	makes a boxplot	minimum: define values for x and y	boxplot(Sepal.Length~Species, data = d.iris.2.sp)
hist	makes a histogramm	minimum: define values for x and y	
par	Shows multiple plots in one device	c(x,y), x= row number, y=number per row	par(mfrow=c(1,2)
anova	Perform a analysis of variances for one or more objects	objects	anova(data)
update	update and re-fit a model	object and formula	update(object, formula)
setwd	setting the working directory	path	setwd("/home/jonas/Desktop")
min	calculate the lowest value of the dataset	object	min(3,4,5,8)
max	calculate the highest value of the dataset	object	max(2,3,4,5)
levels	shows the levels of the dataset	dataset	levels(data)
t.test	performs a t.test	minimum: define values for x and y	t.test(Sepal.Length~Species, data=d.iris.2.sp)
sum	calculate the sum	object	sum(2,3,4,5)
filter	filters specific data from a dataset	tidyverse package needed. Objects has to be given	airquality %>% filter(Ozone >80
group_by	group a dataset by groups	tidyverse package needed. Objects has to be given	iris %>% group_by(Species)
summarise	summararise specific columns of a dataset	tidyverse package needed. Objects has to be given	iris %>% summarise(mean=mean(Sepal.Length))
grepl	show objects of a dataset with certain characteristics	dataset and pattern	grep(v.char, pattern="c", ignore.case=T)

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gsub	replace some strings	dataset, pattern and replacement	gsub(vchar, pattern ="Anna", replacement ="Maria")
tolower	changes a characters to lower	object	tolower(data)
nest	nest multiple columns into one new column	columns	nest(Indicator=c(Indicator, Observations))
left_join	merges two dataset together by a column, which both datasets contains.	minimum: define values for x,y and by	left_join(AB_NYC_available,NYC_nest, by="neighbourhood_group")
leaflet	makes a interactive map	dataset, base layer	leaflet(NYC)
makeIcon	makes a customized icon	iconUrl, iconWidth, iconHeight	makeIcon(iconurl="../01_data/castle.png", iconWidth=20, iconHeight=20)
as.character	transforms an object into the type "character"	object	as.character(df_cheap$dist.timesquare)