Basic R Commands

Operators in R	
Arithmetic Operators in R	
Operator	Description
a + b	Sums two variables
a - b	Subtracts two variables
a * b	Multiply two variables
a / b	Divide two variables
a ^ b	Exponentiation of a variable
a %% b	The remainder of a variable
a %/% b	Integer division of variables
Relational Operators in R	
Operator	Description
a == b	Tests for equality
a != b	Tests for inequality
a > b	Tests for greater than
a < b	Tests for smaller than
a >= b	Tests for greater or equal than
a <= b	Tests for smaller or equal than
Logical Operators in R	
Operator	Description
!	Logical NOT
&	Element-wise Logical AND
&&	Logical AND
|	Element-wise Logical OR
||	Logical OR
Assignment Operators in R	
Operator	Description
x <- 1	Assign a variable to x
x = 1	
x<<-1	
Other Operators in R	
Operator	Description
$	Allows you to access objects stored within an object

Vectors in R		
Creating Vectors in R		
Input	Output	Description
c(1,3,5)	1 3 5	Creates a vector using elements separated by commas
1:7	1 2 3 4 5 6 7	Creates a vector of integers between two numbers
seq(2,8,by =2)	2 4 6 8	Creates a vector between two numbers, with a specified interval between each element.
rep(c(2,8), times=4)	2 8 2 8 2 8 2 8	Creates a vector of given elements repeated a number of times.
rep(c(2,8), each=3)	2 2 2 8 8 8	Creates a vector of given elements repeating each element a number of times.
Selecting Vector Elements		
my_vector[6]		Returns the sixth element of my_vector
my_vector[-6]		Returns all elements except the sixth
my_vector[2:6]		Returns elements from second to sixth
my_vector[-(2:6)]		Returns all elements except those between the second and the sixth
my_vector[c(2,6)]		Returns the second and sixth elements
my_vector[x==5]		Returns elements equal to 5
my_vector[x < 5]		Returns elements less than 5

Math Functions	
max(x)	Returns the maximum value of a vector
min(x)	Returns the minimum value of a vector
mean(x)	Returns the mean of a vector
sum(x)	Returns the sum of a vector
median(x)	Returns the median of a vector

Data Frames	
df <- data.frame(x = 1:3, y = c(“h”, “i”, “j”), z = 12:14)	Creates a data frame with 3 rows and 3 columns with column names x,y and z
df[3,]	Selects all columns of the third row
df$z	Select the column z
df[,2]	Selects all rows of the second column
df[2,3]	Selects the third column of the second row
filter(df, x == 2)	Extracts rows that meet logical criteria
nrow(df)	Number of rows
ncol(df)	Number of columns
ndim(df)	Number of dimensions
dim(df)	get or set the dimension of the df
names(df)	get or set the name of an object df
rownames(df)	get or set the names of the rows
colnames(df)	get or set the names of the columns
head(df)	get the first part of the df
tail(df)	get the last part of the df
rbind() and cbind()	both create matrices by combining several vectors of the same length. rbind() - combines in row cbind() - combines in column
str(df)	Used for compactly displaying the internal structure of an R object
summary(df)	Used with a numerical vector or group of vectors such as columns in a data frame to get the numerical summary of the columns like mean, median and mode