

# Day 2 Cheatsheet

## Basic R

### Major concepts

- **Package** - a package in R is a bundle or “package” of code (and or possibly data) that can be loaded together for easy repeated use or for sharing with others.
- The R console is a full calculator:
  - +, -, /, \* are add, subtract, divide and multiply
  - ^ or \*\* is power
  - parentheses – ( and ) – work with order of operations
  - %% finds the remainder
- # is the comment symbol; nothing to its right is evaluated.

### Functions

Library/Package	Piece of code	Example of usage	What it does
Base R	<-	x <- 1	Assigns a name to something in the R environment.
Base R	c()	x <- c(1, 3)	Combines values into a vector or list.
Base R	str(x)	str(x)	Gets a summary of the object x structure.
Base R	class(x)	class(x)	Returns the type of the values in object x.
Base R	print(x)	print(x)	Prints out contents of x.
Base R	length(x)	length(x)	Returns how long the object x is.

## Data Input/Output

### Major concepts

- **Delimited file** - columns within the file have boundaries created with some type of punctuation - for example, a csv file stands for comma separated values, thus the columns are delimited or separated by commas. txt files often use tabs.
- **tibble** – a rectangular data frame, where data are split into rows and columns.
- **File path** - where a file lives on your computer (or on the internet) - File paths can be relative or absolute.
- **Getting help** - For any function, you can write ?FUNCTION\_NAME, or help("FUNCTION\_NAME") to look at the help file for that function.
- **R Projects** set the working directory where the .Rproj file is.
- **R Markdown** files look for file paths relative to where the .Rmd file is located

### Functions

Library/Package	Piece of code	Example of usage	What it does
readr	read_csv()	df <- read_csv("http://jhubdata-science.springsite.com/jhubdata-science-spring16/data/mtcars.csv")	Reads in a TSV file and converts it to R class/data frame. This function can be tailored to read in other common types of files. i.e. read_csv(), read_rds(), etc.

Library/Package	Piece of code	Example of usage	What it does
TSA	<pre>spec() spec(mtcars)  Gives specification of column types   readxl  [read_excel()] (<a href="https://www.rdocumentation.org/packages/readxl/versions/1.3.1/topics/read-excel">https://www.rdocumentation.org/packages/readxl/versions/1.3.1/topics/read-excel</a>) Read in an excel file.    BaseR  [getwd()] (<a href="https://www.rdocumentation.org/packages/base/versions/3.6.2/topics/getwd">https://www.rdocumentation.org/packages/base/versions/3.6.2/topics/getwd</a>) Finds the current working directory.    BaseR  [setwd()] (<a href="https://www.rdocumentation.org/packages/base/versions/3.6.2/topics/setwd">https://www.rdocumentation.org/packages/base/versions/3.6.2/topics/setwd</a>)</pre>	Changes the current working directory.	

\* This format was adapted from the cheatsheet format from AlexsLemonade.