

# 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("<url>")    | Reads in a TSV file from a specified file path. This function can be tailored to read in other common types of files. i.e. read_csv(), read_rds(), etc. |
| readxl          | read_excel()  | read_excel("dataset.xlsx") | Read in an excel file.  |
| Base R          | getwd()       | getwd()                    | Finds the current working directory.  |

| Library/Package | Piece of code        | Example of usage              | What it does                           |
|-----------------|----------------------|-------------------------------|--|
| Base R          | <code>setwd()</code> | <code>setwd("Desktop")</code> | Changes the current working directory. |

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