

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()] (https://www.rdocumentation.org/packages/readxl/versions/1.3.1/topics/read-excel) Read in an excel file. BaseR [getwd()] (https://www.rdocumentation.org/packages/base/versions/3.6.2/topics/getwd) Finds the current working directory. BaseR [setwd()] (https://www.rdocumentation.org/packages/base/versions/3.6.2/topics/setwd)</pre> | Changes the current working directory. | |

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