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://jhudatascience.org/intro_to_R_class/data/`	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.

Library/Package	Piece of code	Example of usage	What it does
TSA	`spec()`|spec(mtcars)| `Gives specification of column types`| |readxl| [read_excel()](https://www.rdocumentation.org/packages/readxl/versions/1.3.1/topi `Read in an excel file.`| | BaseR| [getwd()](https://www.rdocumentation.org/packages/base/versions/3.6.2/topics/get `Finds the current working directory.`| | BaseR| [setwd()](https://www.rdocumentation.org/packages/base/versions/3.6.2/topics/getw	Changes the current working directory.	

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