Intro to R and Tidyverse Cheatsheet

The tables below consist of valuable functions and commands that will help you through this module.

Each table represents a different library/tool and the corresponding commands.

> Please note that these tables are not intended to tell you all the information you need to know about each command.
>
> The hyperlinks found in each piece of code will take you to the documentation for further information on the usage of each command.

Base `R`

Read the Base `R` documentation here.

Library/Package	Piece of code	What it's called	What it does
Base `R`	`<-`	Assignment operator	Assigns a name to something in the R environment
Base `R`	`c()`	Concatenate	Combines values into a vector or list
Base `R`	`rm(x)`	Remove	Removes object(s) `x` from your environment
Base `R`	`==, <=, >=, !=`	Relational Operators	These are binary operators which allow for the comparison of values in an object.
Base `R`	`str(x)`	Object Structure	Gets a summary of the object `x` structure.
Base `R`	`head()`	Head	Returns the top 6 rows of an object in the environment by default. You can specify how many rows you want by including the `n =` argument.
Base `R`	`tail()`	Tail	Returns the bottom 6 rows of an object in the environment by default. You can specify how many rows you want by including the `n =` argument.
Base `R`	`as.factor(x)`	As Factor	Coerces object x into a factor (which is used to represent categorical data). This function can be used to coerce object `x` into other data types, i.e., `as.character`, `as.data.frame`, `as.matrix`, etc.
Base `R`	`dim(x)`	Dimensions summary	Returns the dimensions of object `x`.
Base `R`	`data.frame()`	Data Frame	Creates a data.frame where the named arguments will be the same length
Base `R`	`[[x]]`	Double bracket	Extracts `x` from a nested list
		Session	Returns the R version information, the OS, and

Base `R`	`sessionInfo()`	Information	the attacked packages in the current R session
Base `R`	`getwd()`	Get working directory	Finds the current working directory.
Base `R`	`setwd()`	Set working directory	Changes the current working directory.
Base `R`	`dir.exists()`	Directory exists	Checks the file path to see if the directory exists there
Base `R`	`dir.create()`	Create directory	Creates a directory at the specified file path.
Base `R`	`apply()`	Apply	Returns a vector or list of values after applying a specified function to values in each row/column of an object
Base `R`	`round()`	Round	Rounds the values of an object to the specified number of decimal places (default is 0).
Base `R`	`rnorm()`	R Norm	Generates a vector of random numbers from a standard normal distribution

`dplyr`

Read the `dplyr` package documentation **here**.
A vignette on the usage of the `dplyr` package can be found **here**.

Library/Package	Piece of code	What it's called	What it does
`dplyr`	`%>%`	Pipe operator	Funnels a data.frame through tidyverse operations
`dplyr`	`filter()`	Filter	Returns a subset of rows matching the conditions of the specified logical argument
`dplyr`	`arrange()`	Arrange	Reorders rows in ascending order. arrange(desc()) would reorder rows in descending order.
`dplyr`	`select()`	Select	Selects columns that match the specified argument
`dplyr`	`mutate()`	Mutate	Adds a new column that is a function of existing columns
`dplyr`	`summarise()`	Summarise	Summarises multiple values in an object into a single value. This function can be used with other functions to retrieve a single output value for the grouped values. `summarize` and `summarise` are synonyms in this package.
`dplyr`	`rename()`	Rename	Renames designated columns while keeping all variables of the data.frame
`dplyr`	`group_by()`	Group By	Groups data into rows that contain the same specified value(s)
`dplyr`	`inner_join()`	Inner Join	Joins data from two data frames, retaining only the rows that are in both datasets.

Docker

Read documentation on the Docker container here.

Piece of code	What it's called	What it does
`docker pull`	Docker Pull	Pulls an image from a docker container
`docker run`	Docker Run	Runs processes in a docker container

`ggplot2`

Read the `ggplot2` package documentation here.
A vignette on the usage of the `ggplot2` package can be found here.

Library/Package	Piece of code	What it's called	What it does
`ggplot2`	`ggplot()`	GG Plot	Begins a plot that is finished by adding layers.
`ggplot2`	`geom_boxplot()`	Boxplot	Creates a boxplot when combined with ggplot()

`readr` and `tibble`

Read the `readr` package documentation here and the package vignette here.
Read the `tibble` package documentation here and the package vignette here.

Library/Package	Piece of code	What it's called	What it does
`readr`	`read_tsv()`	Read TSV	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.
`tibble`	`column_to_rownames()`	Column to Rownames	Transforms an existing column into the rownames.