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**Basics:** *Understanding the workspace, creating objects, difference between object types, concatenating variables/objects, performing calculations, loading, and installing libraries*

**Key Points:** R is based on libraries, objects, matrices, and data frames. Additionally, R is case sensitive and does not like spaces. Instead of spaces use *CamelCase* or a separator such as a *period* or *underscore*.

**Key R Functions:**

- `library()`, `install.packages()`, `rm(list = ls())`, `dev.off()`, `c()`, `as.matrix()`, `as.data.frame()`, `as.factor()`, `?help`
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**Data Importing:** *Understand different file types and their associated libraries*

**Key Points:** Different data file types require different loading mechanisms

**Key R Functions:**

- `read_excel()`, `read_csv()`, `read.table()`
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**Data Wrangling & Statistics Summary:** *Tidy data, summarize data, reshape data, merge data, and subset data*

**Key Points:** To effectively visualize and perform statistical analysis on your data it is best to wrangle your data into the structure that nest fits a statistical analysis. This is important since different analyses require different data structures. This step also allows for neater data frames.

**Key R Functions:**

- `summary()`, `filter()`, `select()`, `group_by()`, `pivot_wider`, `pivot_longer()`, `separate()`, `drop_na()`, `replace_na()`, `full_join()`, `left_join()`, `right_join()`, `t()`, `%>%`
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**Data Visualization:** *Choosing visualization type, ggplot2*

**Key Points:** Visualize your data

- Visualization types: <https://r-graph-gallery.com/>
  - Correlation, Distribution, Ranking, Evolution, Part of a Whole, Map, Flow

**Key R Functions:**

- `plot()`, `color`, `fill`, `pch`, `linetype`, `ggplot()`, `geom_point()`, `geom_bar()`, `geom_smooth()`