

# Day 6 Cheatsheet

## Data Manipulation

### Major concepts:

- Wide data - multiple columns per individual, values spread across multiple columns
- Long data - multiple rows per observation, a single column contains the values

### Functions

| Library/Package | Piece of code               | Example of usage   | What it does  |
|-----------------|-----------------------------|--|---|
| dplyr           | <code>separate()</code>     | <code>df %&gt;% separate(x, c("A", "B"))</code>  | Separate a character column into multiple columns with a regular expression or numeric locations  |
| dplyr           | <code>unite()</code>        | <code>df %&gt;% unite("z", x:y, remove = FALSE)</code>   | Unite multiple columns together into one column   |
| tidyr           | <code>pivot_longer()</code> | <code>df %&gt;% pivot_longer(!column_to_not_touch, names_to = "new_col_with_labels", values_to = "new_col_with_values")</code> | Lengthens a data frame by increasing the number of rows and decreasing the number of columns.   |
| tidyr           | <code>pivot_wider()</code>  | <code>df %&gt;% pivot_wider(names_from = "col_with_names", values_from = "col_with_values")</code>                             | Widens a data frame by decreasing the number of rows and increasing the number of columns.  |
| dplyr           | <code>?_join()</code>       | <code>inner_join(x, y)</code>  | Joins data from two data frames.<br><b>inner_join</b> - only rows that match for x and y are kept.<br><b>full_join</b> - all rows of x and y are kept.<br><b>left_join</b> - all rows of x are kept even if not merged with y.<br><b>right_join</b> - all rows of y are kept even if not merged with x.<br><b>anti_join</b> - all rows from x not in y keeping just columns from x. |
| Base R          | <code>duplicated()</code>   | <code>duplicated(x)</code>   | Determines and removes duplicate elements from x.   |

| Library/Package | Piece of code    | Example of usage | What it does  |
|-----------------|------------------|------------------|---|
| Base R          | <code>t()</code> | Transpose        | Returns the transpose of a matrix or data frame. If given a data frame, returns a matrix. |

## Data Visualization with **esquisse**

### Major concepts

- The **esquisse** package can help you to test out plots and get familiar with the syntax required to make plots

### Functions

| Library/Package | Piece of code            | Example of usage               | What it does  |
|-----------------|--------------------------|--------------------------------|---|
| <b>esquisse</b> | <code>esquisser()</code> | <code>esquisser(Orange)</code> | Start an <b>esquisse</b> interactive session to create a plot of the given <code>data.frame</code> or <code>tibble</code> |

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