

# Day 3 Cheatsheet

## Subsetting Data in R

### Functions

Library/Package	Piece of code	Example of usage	What it does
Base R	<code>nrow(x); ncol(x)</code>	<code>nrow(x); ncol(x)</code>	Get the number of rows and the number of columns in an object <code>x</code> , respectively.
Base R	<code>dim(x)</code>	<code>dim(x)</code>	Get the number of rows <i>and</i> number of columns in an object <code>x</code>
dplyr	<code>glimpse(x)</code>	<code>glimpse(mtcars)</code>	Get an overview of data frame <code>x</code>
dplyr	<code>slice_sample(x)</code>	<code>slice_sample(mtcars)</code>	See a random subset of the rows of <code>x</code>
Base R	<code>data.frame()</code>	<code>df &lt;- data.frame(1:3)</code>	Creates a data frame where the named arguments will be the same length.
Base R	<code>tibble()</code>	<code>tibble(mtcars)</code>	Creates a tibble from a data.frame or matrix.
tibble	<code>column_to_rownames()</code>	<code>df &lt;- df %&gt;% column_to_rownames('existing_variable_name')</code>	Transforms an existing <code>column_to_rownames('existing_variable_name')</code> string into the rownames.
tibble	<code>rownames_to_column()</code>	<code>df &lt;- df %&gt;% rownames_to_column('new_variable_name')</code>	Transforms the <code>rownames_to_column('new_variable_name')</code> data frame into a column (which is added to the start of the data frame). The string supplied as an argument will be the name of the new column.
dplyr	<code>rename()</code>	<code>df &lt;- dplyr::rename(df, MPG = mpg)</code>	Renames designated columns while keeping all variables of the data.frame
dplyr	<code>pull()</code>	<code>pull(df, 'existing_variable_name')</code>	Extract a column as a vector
dplyr	<code>select()</code>	<code>select(df, 'existing_variable_name')</code>	Selects columns that match the specified argument
dplyr	<code>filter()</code>	<code>filter(df, mpg &gt; 20)</code>	Returns a subset of rows matching the conditions of the specified logical argument

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Base R	<code>==, &lt;=, &gt;=, !=</code>	<code>filter(df, mpg &gt; 20)</code>	These are binary operators which allow for the comparison of values in an object. They are handy for use with <code>dplyr::filter()</code>
Base R	<code>%in%</code>	<code>filter(df, mpg %in% c(20,21,22))</code>	Checks if the given value(s) on the left side of the operator are in the vector or other R object defined on the right side of the operator. It returns a logical TRUE or FALSE statement.
dplyr	<code>%&gt;%</code>	<code>df &lt;- df %&gt;% select('new_variable_name')</code>	Filters a data.frame through tidyverse operations
dplyr	<code>mutate()</code>	<code>df &lt;- mutate(df, newcol = wt/2.2)</code>	Adds a new column that is a function of existing columns
dplyr	<code>relocate()</code>	<code>df_carb &lt;- relocate(.data = df, wt, .before = mpg)</code>	Reorder columns in a data frame or tibble
dplyr	<code>arrange()</code>	<code>df &lt;- arrange(df, mpg)</code>	Reorders rows in ascending order.
dplyr	<code>case_when()</code>	<code>df &lt;- arrange(df, mpg)</code>	<code>arrange(desc())</code> would reorder rows in descending order. This function allows you to vectorise multiple <code>if_else()</code> statements. If no cases match, NA is returned.
Base R	<code>colnames()</code>	<code>colnames(df)</code>	Gets or sets the column names of a matrix or data frame.

- See `tidyselect` helpers for handy things to use with `select()`.

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