Quarto & R Demo

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Packages for class

Note: You can run code in a few different ways. You can click the green arrow in the code chunk; use a keyboard short cut (Ctrl+Enter for PC; Cmd+Return for Mac). For a list of other keyboard shortcuts, please visit the following: https://support.posit.co/hc/en-us/articles/200711853-Keyboard-Shortcuts-in-the-RStudio-IDE

library(tidyverse)

```
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```

```
-- Attaching core tidyverse packages ------------------------ tidyverse 2.0.0 --
v dplyr     1.1.2     v readr     2.1.4
v forcats   1.0.0     v stringr   1.5.0
v ggplot2   3.4.2     v tibble    3.2.1
v lubridate 1.9.2     v tidyr     1.3.0
v purrr     1.0.1
-- Conflicts ------------------------------------------ tidyverse_conflicts() --
x dplyr::filter() masks stats::filter()
x dplyr::lag()    masks stats::lag()
i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to beco
```

Quarto is great

Quarto enables you to weave together content and executable code into a finished document. To learn more about Quarto see https://quarto.org.

mtcars

For the remainder of the class, we will use the `mtcars` data set.

- Take a glimpse of the data set using the `glimpse` function in R. Let's also label our code chunk!

```
glimpse(mtcars) # this is text
```

```
Rows: 32
Columns: 11
$ mpg  <dbl> 21.0, 21.0, 22.8, 21.4, 18.7, 18.1, 14.3, 24.4, 22.8, 19.2, 17.8,~
$ cyl  <dbl> 6, 6, 4, 6, 8, 6, 8, 4, 4, 6, 6, 8, 8, 8, 8, 8, 4, 4, 4, 4, 8,~
$ disp <dbl> 160.0, 160.0, 108.0, 258.0, 360.0, 225.0, 360.0, 146.7, 140.8, 16~
$ hp   <dbl> 110, 110, 93, 110, 175, 105, 245, 62, 95, 123, 123, 180, 180, 180~
$ drat <dbl> 3.90, 3.90, 3.85, 3.08, 3.15, 2.76, 3.21, 3.69, 3.92, 3.92, 3.92,~
$ wt   <dbl> 2.620, 2.875, 2.320, 3.215, 3.440, 3.460, 3.570, 3.190, 3.150, 3.~
$ qsec <dbl> 16.46, 17.02, 18.61, 19.44, 17.02, 20.22, 15.84, 20.00, 22.90, 18~
$ vs   <dbl> 0, 0, 1, 1, 0, 1, 0, 1, 1, 1, 1, 0, 0, 0, 0, 0, 0, 1, 1, 1, 1, 0,~
$ am   <dbl> 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0,~
$ gear <dbl> 4, 4, 4, 3, 3, 3, 3, 4, 4, 4, 4, 3, 3, 3, 3, 3, 3, 4, 4, 4, 3, 3,~
$ carb <dbl> 4, 4, 1, 1, 2, 1, 4, 2, 2, 4, 4, 3, 3, 3, 4, 4, 4, 1, 2, 1, 1, 2,~
```

```
# Glimpse is a function that does...
```

- What does glimpse tell us?

Add answer here

It's a good habit to `commit` and `push` after you answer questions. Let's demo this now!

- Use `?` before the function name to get more information about the function in R. Type this in the console. Click on `Get a glimpse of your data` in the help window.
- Now, let's introduce what a pipe operator is. Below, pipe the data set into the function glimpse, to obtain the same results as above.

```
#insert code here
```

- **Demo Together**: Now, let's run `?filter` in the console. Next, filter out the any cars who weigh more than 4000 lbs.

```
#insert code here
```

- Notice how the data were not overwritten by running `mtcars` in the console.

Now, filter these data so that is displays only cars that weigh less than 4000 lbs and save the new data set named `small_cars`.

```
#insert code here
```

- **Demo Together**: Using your new data set, take the mean weight of cars using the `summarise` function. Report the mean below. Hint, look up the help file to the function, and scroll down to the first example.

```
#insert code here
```

Render

When you click the **Render** button a document will be generated that includes both content and the output of embedded code. Note: if something is wrong with your code, your document will not render.

If Time

Data Visualization

Using the `mtcars` data set, we are going to create your first visualizations in R.

- What types of plots could we make with the variable `mpg`?

Add answer here

Optional

- Visit the follow website: https://dplyr.tidyverse.org/reference/index.html

Choose a function of your choice and try to implement it on these data below

```
#insert code here
```