More Practice Knitting

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Activities for additional practice knitting, to be completed in pairs. If you are having trouble, and your neighbors have figured something out, help each other out!

Part I

Examining a data set.

1. First make a new R Markdown file.
2. Delete the example code, leaving the setup options. (The code chunk named "r setup").
3. Load the dataset named "mtcars." Look at the data. Read a description of it.
4. Run the command "colnames(mtcars)" to list the names of the columns in the dataset.
5. Run the command "row.names(mtcars)" to list the names of the rows in the dataset. **How do these row names differ from other row names we've seen?**
6. Run the command "mtcars[12,]" to display the 12th row of data.
7. Run the command "mtcars[, 3]" to display the 3rd column of data.
8. Run the comman "mtcars$drat" to display the variable named "drat"
9. Write your own command, and run it, to display the 14th row of data.
10. Write your own command, and run it, to display the 5th column of data.
11. Write your own command, and run it, to display the variable named "disp"

Answer the following questions about the data:

- What are the different variables in the dataset?
- How many cars were examined?

Workflow questions:

- When writing your code, did you write it in code chunks?
- When answering the questions, did you type your answers as plain text in your R Markdown file?
- Knit your R Markdown file to a PDF. How does it look? Play around with formatting, headers, to see if you can get it how you like it.

Part II

Let's look at the data more closely...

1. Calculate the 5-number summary for the dataset with "summary(mtcars)"
    - Which variables have a mean and median that differ by more than 10?
    - Which variables have equal min's and 1st quartiles?
2. Make a table of the values "vs" and "am" can take by writing the command "table(mtcars$vs, mtcars$am)"
    - What are the possible values for "vs"?
    - What are the possible values for "am"?
3. Write your own command to make a table of the values "gear" and "carb" can take?
    - What are the possible values for "gear"
    - What are the possible values for "carb"
4. Make a plot of "mpg" versus "wt" using the command "plot(mtcars$wt, mtcars$mpg)"
    - Use "help(mtcars)" to look up what wt refers to. Do heavier cars have higher or lower mpg?
5. Write your own command to plot "mpg" versus "hp"
    - Do cars with higher horse power get lower or higher mpg?

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