STA141 Worksheet 1a

Data and Variables in R

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Before we start!

The way we will use RStudio in this course is by combining our code and output (plots, tables, etc) with written explanations and to turn this into a PDF document. We do this using the `rmarkdown` library, the centerpiece of which is the Rmarkdown file type.

(a) First we need to install two packages—`rmarkdown` and `tinytex`—by running:

```
install.packages('rmarkdown')
install.packages('tinytex')
tinytex::install_tinytex()
```

(b) Now when you want to create a new file instead of opening a new script, you can open an Rmarkdown file by clicking **File → New File → R Markdown...**. This should open a box where you can enter metadata. Type in your name, a title, and select PDF as the Default Output Format, (Don't worry if you mess this up, it can all be changed later) and click **OK**.

(c) An Rmarkdown file allows us to include text, ℝ code, and output into one document. You should have a skeleton of an Rmarkdown file now on your screen. Let's turn this into a PDF just to have a look at the result.

(d) In order to render the document to PDF you'll have to save it first so go to **File → Save As...** and save the file as `worksheet1` in your STA141 folder. Once you've saved it, click `Knit` on the toolbar at the top of the file. Note here: if you set the default to a document other than PDF, you can click the arrow next to `Knit` and selected `Knit to PDF`. Once you've clicked `Knit`, a PDF should open in a new window.

(e) Notice that the code block sections render as a line of code and then prints the output of that code into the PDF file.

(f) All of the text outside of the code blocks is just text as if this were any word processing software. Try changing the text in the first paragraph to see that it works. Also notice that the text next to the ## symbols becomes a heading in Rmarkdown.

(g) Now you're all set to start worksheet 1! Download the Rmarkdown file from canvas to your STA141 folder and open it in RStudio.

→ **This is how we will complete assignments in this course (and most other courses in this Department). You will copy the questions into the text blocks, write your answers as code in the code blocks, knit it, and then submit it as a PDF output.**