Quarto

Open RStudio and create a new project under your Module 4 folder and call it **Assignment3.** For this assignment, you will be using an alternative to R Markdown that was created by Posit who supports R Markdown. Quarto (https://quarto.org/) is an open-source software that can be used across platforms to produce presentations, blogs, etc. in various output formats including HTML, PDF, MS Word, etc.

This will be both a tutorial on installing the software and then a quick exercise to produce output from the package.

Part 1: Installing Quarto

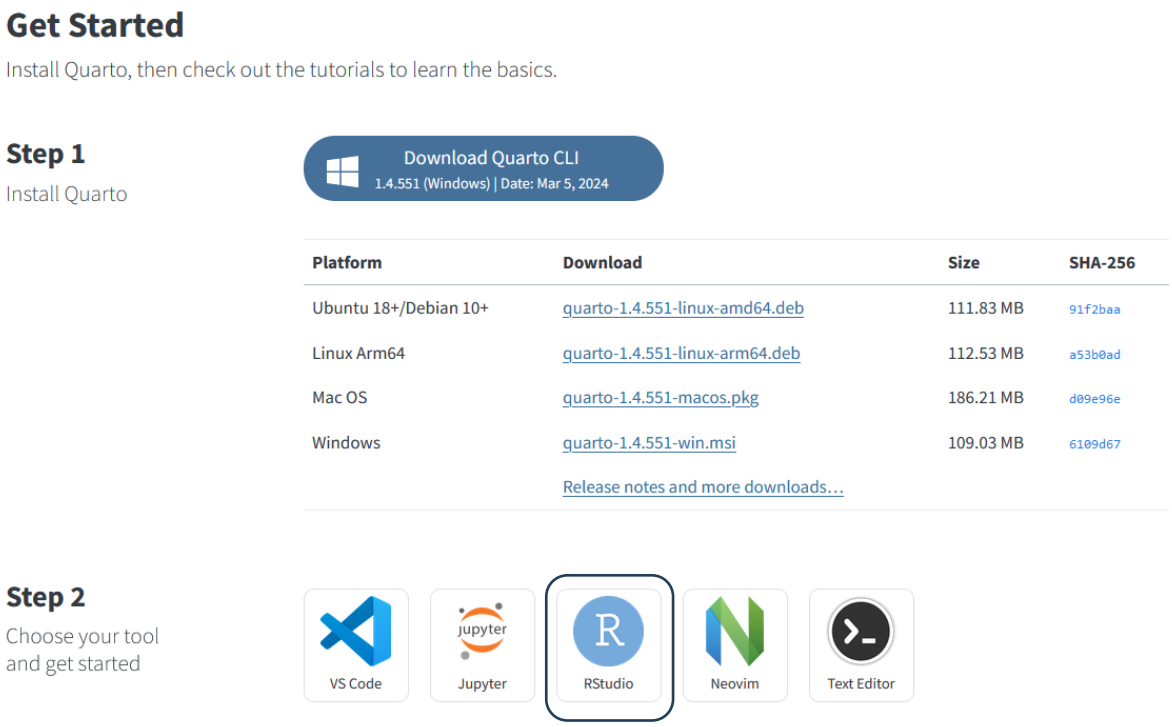
1.) You will need to have administrator access on your machine to install Quarto. If you are using the cloud version (i.e., posit.cloud), Quarto is already included in R Studio and you can skip to Part 2.

2.) Open a browser and go to https://quarto.org/. On the homepage, click on the "Get Started" button:

3.) This will take you to the installation page. Choose the platform you are using (e.g., Windows, Mac OS, etc.) and download/install the latest version of Quarto.

Part 2: Basics of Quarto

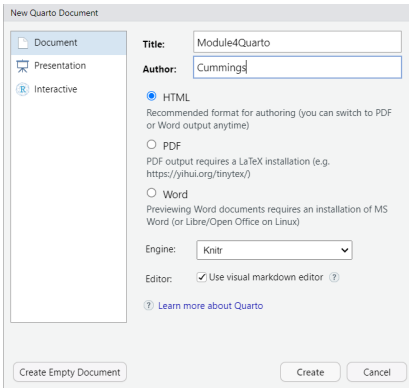
4.) Now that Quarto has been installed, it would be good to walk through the tutorial provided. On the download Quarto page you should see "Step 2 Choose your tool and get started". Click on R Studio and run through the tutorial.



5.) Notice that there will be information at the top of the document concerning title, author, etc. This will be the title for your Word output file when you knit the markdown file.

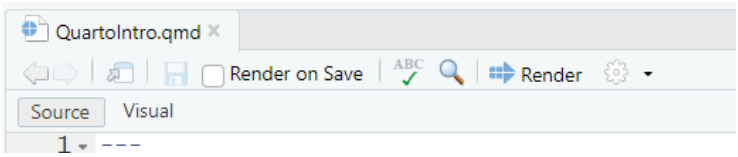
Part 3 – Creating your first Quarto Output

6.) In RStudio, select *File -> New File -> Quarto Document…* Use *Module4Quarto* as the title and select HTML for the output format:

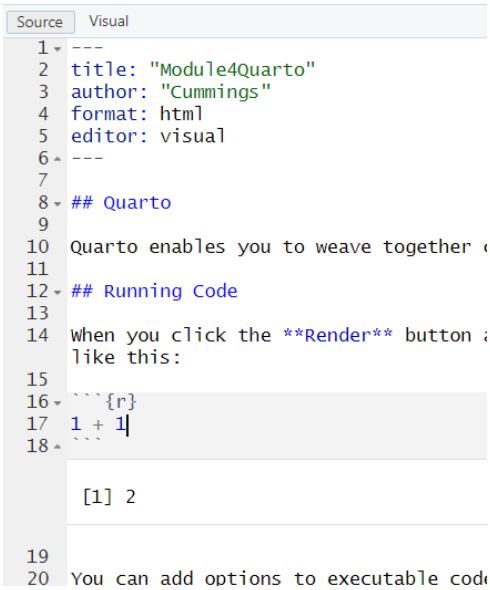


7.) Save this file as **Mod4Assign3Answer.qmd** to the folder you created earlier in the assignment.

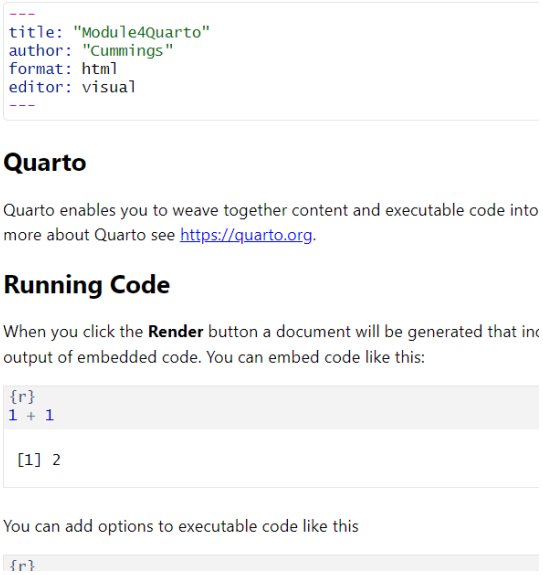
8.) As you can see, Quarto is very similar to RMarkdown. One feature that is helpful is the different views provided with Quarto. You can switch between Source (which is the code similar to RMarkdown) and Visual (which is closer to what the output will look like once rendered).You can click on the Source or Visual button located toward the top of the .qmd file:



Source View



Visual View



9.) For this assignment, you will be doing a stock analysis similar to the assignment you did in a previous module. To help you with formatting, see https://rstudio.github.io/cheatsheets/quarto.pdf or https://quarto.org/ for more information and tips. Most of the basics follow the same formatting as R Markdown documents use (e.g., Header 1, 2, etc.).

10.) First, delete all the default information/code that is included in the default Quarto document when it was first created. The only thing you should keep is the code between the --- at the top of the screen.

11.) Create a Header 1 with the title: **Module 4 - Assignment 3**

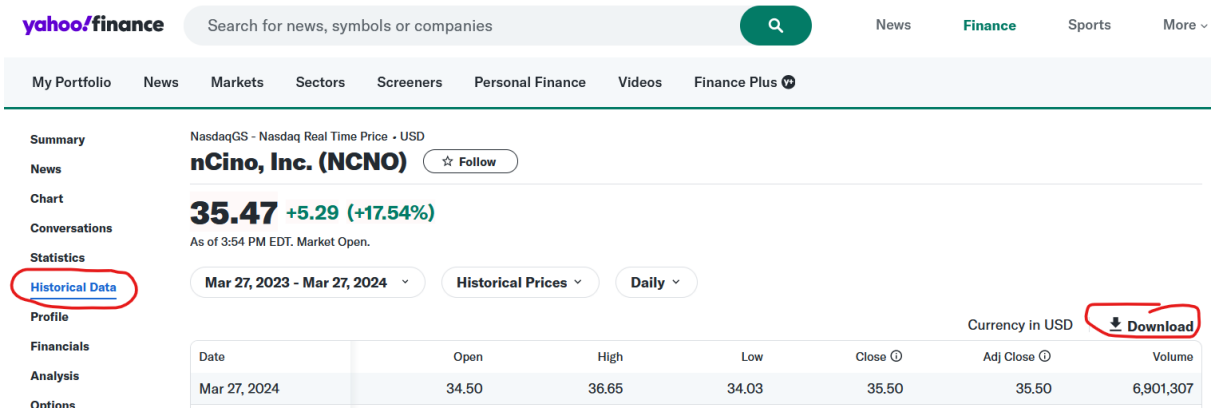
12.) Create a Header 2 with the title: **Last Name, First Name** (replace with your name)

13.) Create a Header 3 with the title: **Analysis of Stocks**

14.) Instead of having to knit the file to see the output, you can click on the Visual button that was disccused before to see what your document will look like.

15.) Go back to the Source screen and add a chunk of code that will load the tidyverse package. **You will be using ggplot to create all the plots in this assignment (do not use the plot function for this assignment).**

16.) For this assignment, I would like you to go out and capture your own data. We will be analyzing the return on stocks for an organization of your choosing over the last year (be sure to pick a stock that has been publicly trading for at least 1 year). Go to https://finance.yahoo.com/ and search for a specific company stock ticker (for the example in this assignment, I chose NCNO). The following should appear on the site:



17.) Click on Historical Data (circled above) and then click on the Download link (also circled). This will create a .csv file to download. Save this file to the location of your project.

18.) In the same chunk of code that you are loading the tidyverse, add the code to import the file you just downloaded.

Basic Plots

For this section, you will be creating a variety of basic plots that have been discussed in class. For this assignment, R Graphics Cookbook (https://r-graphics.org/) provides a good reference when creating plots.

19.) Create a Header 4 with the title: ***YourSelectedCompany* Stock Price Plots**

20.) Write the following text to explain what you will be doing in this section:

The following is an analysis of *Your Selected Company's* stock price from the past year. This will include a scatter, line, bar, histogram and boxplot. All the plots represent the closing price on the dates listed on the x-axis.

21.) For these plots, use the dataset you just imported in the previous section. For all of the following plots, you will be using the variable *Date* for the x-axis and the variable *Open* for the y-axis.

22.) Create a new chunk of code and name the chunk Basic Plots. Include code to create the following plots in this section:

   a. Scatterplot
   b. Line Graph
   c. Bar Graph (hint: geom_col)
   d. Histogram (use the variable *Close* for the x-axis, nothing will be needed for the y-axis)
   e. Box Plot (use the variable *Close* for the x-axis, nothing will be needed for the y-axis)

23.) Finally, before leaving this chunk of code, include a line graph that also displays the points along the line (see https://r-graphics.org/recipe-quick-line for explanation of how to code this).

24.) Immediately following the chunk of code, include the following question and answer it within the Quarto document:

Based on the analysis of the opening price over the past year, would suggest investing in the company? Does the output suggest that the stock is has been increasing or decreasing?

25.) The last step is to click on the render button to create your .html output for the assignment. Upload this output in Canvas