Final Project

The final project includes multiple components, culminating in a data visualization portfolio. The portfolio must include **at least three** data visualizations, communicate the history of each visualization, and be deployed to the web. The due dates for each component are as follows:

Component	Date Due
Proposal	Mon, Jan 30 (Week 4)
Draft	Mon, Feb 20 (Week 7)
Peer Review	Mon, Mar 6 (Week 9)
Presentation	Mon, Mar 13 (Week 10)
Product	Mon, Mar 20

The due date for the proposal can be (somewhat) flexible. However, unlike the labs and homework, the remaining aspects of the final project cannot be changed, and you will lose points if your work is submitted late. It is primarily because of concerns about peer review and complete the project by the end of the term.

Proposal (Week 4)

The proposal process is a chance for you to get feedback from me on your plans for the final project. The more information you provide me, the better feedback I can provide you. The proposal is scored on a best honest effort basis. For full credit, please include each of the following:

- Description of the data and source (must be publicly available)
- Research questions (probably 1-3)
- Some documentation that you have played with the course data (EDA)
- Preliminary ideas (even hand sketches) of different visualizations
- Identification of the intended audience for each visualization
    - Note you might consider displaying the same data/relations more than once, with each plot displayed for a different audience.
- The intended message to be communicated for each plot.

Draft (Week 7)

By the end of Week 7, you should have a complete draft of the data visualizations you will share in your portfolio. These should be housed on GitHub and ready to receive feedback from your peers. To receive credit, you must submit a link to your GitHub repo.

Peer Review (Week 9)

You will be assigned to review code from three of your peers. The purpose of this exercise is to learn from each other. Programming is an immensely open-ended enterprise with many winding paths that ultimately end up at the same destination. In terms of visualization, there is certainly plenty of room for artistic license, but certain design decisions (as we will learn) can lead to more interpretable and better data communication. Peer review is a chance to learn from your peers by reviewing their work and having your work reviewed.

During your peer review, you must (at minimum) note the following:

- at least three areas of strength
- at least one thing you learned from reviewing their script
- at least one and no more than three areas for improvement for each visualization.
- comments on the code leading up to (including) the visualization and the visualization itself (aesthetics, best practices, etc.).

Making your code publicly available can feel daunting. This portion of the final project aims to help us all learn from each other, not denigrate. **Under no circumstances will negative comments be tolerated**. Any comments that could be perceived as negative and outside the scope of the code will result in an immediate score of zero. Be constructive in your feedback. Be kind. We are all learning.

Presentation (Week 10)

Week 10 will include each student sharing their portfolio with the class. I encourage you to present using HTML slides produced via R Markdown (specifically xaringan), but this is not required. If you are interested in doing so but feel uncertain about the process, please get in touch with me, and I can meet with you individually (or with a small group if there is sufficient interest) to help get you started. **Before the start of Week 10,** please submit a link to your **published** presentation, or send me the presentation file.

You will have approximately seven minutes to share your portfolio, which provides one to two minutes for transitions and about a 10 to 15-minute break. Please cover the following during your presentation:

- Briefly show each visualization, share the final products
- Pick 1-2 to go more in-depth, and discuss
    - Intended audience
    - Design choices, e.g.
        - Colors
        - Layout
        - Choice of a specific type of plot
    - Prior version(s) and how the changes helped clarity, communication, beauty, etc.
    - At least one major challenge encountered along the way
    - At least one major victory
    - How did you use feedback from your peers to improve the visualization?

Note that your final project is expected to be a work in progress during your presentation. You may still be working on the final output format, for example, or getting the portfolio published.

Product (Mar 20)

The final project must include

- A web-deployed portfolio showcasing your #dataviz skills using one of the following:
    - Website with distill
    - Technical document with pagedown or bookdown
    - Scientific poster with pagedown or posterdown
    - Data dashboard with flexdashboard
- At least three finalized data displays, each accompanied by a strong narrative/story **and the history** of how the visualization changed over time.

You must show iterations of your data displays, highlighting how they evolved and why you made the specific changes you did. A blog post showing your visualizations and their evolution would work great if you go the website route. Dashboards similarly have built-in mechanisms to help show the history of the plot.

The final project is required to be housed on GitHub and be fully reproducible. It will be graded on the following three criteria:

- At least three different visualizations (30 points; 10 points each)
    - Design choices (nothing violating the principles discussed in class)
    - Plot appropriate for a given audience
    - The evolution of the plot is clear
- Reproducibility (20 points)
    - It should be housed on GitHub
    - I'll clone and try to reproduce - any differences between my local version and the published version will result in lost points
- Deployment (10 points)
    - It should be shareable via a link
    - No errors in the specific chosen format
    - Clear, clean, easy to follow/understand