INFO 3510, Fall 2024
Project #2
Project Due: December 13, 11:59 PM
Project Proposal Due: November 15, 11:59 PM

The guidelines for your second project are similar to the first, but with some caveats. Again, you can utilize what we've covered in class as well as other things you have picked up along your coding journey and explore some data relating to music and communicate your findings in a narrative document that details the interesting things you've discovered and done. Project 2 can extend the work that you've done on Project 1, but keep in mind that the scope of Project 2 should be at least as large as Project 1.

As before, you should start by asking some sort of question that can be answered by exploring and analyzing data. You will need to address that question by exploring data of at least two *different types of content*. For example, you can use two different data sources for lyrics, but this will only count as one content type. If you are continuing your work from Project 1, **YOU MUST** utilize two new different types of content.

- You can use things we haven't covered in class as long as you thoroughly document them both in your code and in the collaboration acknowledgment.
- You can use code we've written together in class, but this code doesn't "count" towards "your coding". You need to build from what we've covered and do some interesting things on your own.
- The more robust your data exploration is, the better your grade is likely to be. This can include more data sources, more findings that you report, et cetera.
- You must use either Discord or a sqlite database in your project. These do not count toward the content type requirements.

Project Components
Your project will consist of three major components:

Design: The overall design of your project dictates what you do and how you do it. Aspects of the design are integrated into your entire project. The problem you are seeking to solve and your approach in solving it are contained in this portion of your project. As such, it is not any one particular thing, but rather the overarching message of your project.

Code: You should submit your Python notebook files as part of your submission. As always, the collaboration policy is in effect for this assignment. If you don't come up with code on your own or use someone else's code as inspiration, you must properly document this. Also, make sure to document your code. If your code requires any dependencies (e.g., API keys, data files, et cetera), you must include them with your submission or you will lose points.

Writeup: Your writeup needs to contain the full "story" of your project. You should answer the following questions:

- What is the question you are trying to answer?
- How did you answer your question? That is to say, what did you do? Tell the story of what you did. The more details the better!
- What were the results? Were they surprising or what you expected? (Visualizing your results is a fantastic way to communicate your findings.)
- If you were to continue doing work on this topic, what would you do next?

Project Submission

You must submit to Canvas **ONE** compressed zip file containing the materials for your project. Those materials are:
- All of your code in one or more Jupyter Notebook (.ipynb) files
- Your writeup
- Your project plan
- Any external data files you used or generated (e.g., CSV files)
- Any files containing any other work you did for the project (e.g., files used when creating your visualization)
- A README file that contains any information a reviewer should know about.

If you are continuing the work from your first project, **YOU MUST** include your first project in your submission.

Grading

Here are the questions we'll use to evaluate each other's submissions:
- Design: Does your project do something interesting? Does it do something that you couldn't do easily without code?
- Code: Does your code run? (This one is especially important. I would strongly recommend against turning in code that doesn't run. Similarly, test all of your code before submitting it.)   Does it do what it's supposed to do?
- Writeup: Can anyone read your project writeup and understand what you're trying to accomplish? Does your writeup clearly indicate what you did and how you did it? Did you do all of this with clear and articulate writing? Your writeup needs to be as long as it takes to address the project requirements, so while there isn't a "minimum" length requirement, if your writeup has less than at least four pages of text, single-spaced (~2000 words), you haven't done enough.
- Visualizations: Do they explain something that numbers alone don't? Did you choose an appropriate visualization for the points that you're trying to convey?

Please note that as part of the grading I may require that you meet with me to discuss your project.

Suggestions

Do not wait until the last minute to start your project. If you haven't already, start thinking about what you want to do **right now**, not tomorrow. That said, you have all of the skills and experience necessary to do a great job on this project.

You can use any code that we've written together in class, but **you must** acknowledge where you got the code from.

Your project can answer as many questions as you like. You'll find that once you write a little bit of code to answer one question, you'll be able to answer another question with only a little more work.

Project Plan

Any good project starts with a good project plan. What goes into a good project plan? Start by answering these questions:
- What is the main question you want to answer? How do you plan to answer it? What other questions do you think you might answer along the way?
- How do you anticipate you will answer these questions? That is to say, what are the rough steps you will take in your analysis?
- Are there any anticipated roadblocks you might encounter? How do you think you'll overcome them?
- What visualizations do you think you will use?

If you are continuing the work you did in the first project, your project proposal should also describe why you are continuing the work and how this new work will build on the existing work.

You will lose five points if you include a pie chart in your project. You will also lose five points if you include a word cloud in your project.

Do not write your project plan with these bullets as "section headers" followed by how you're going to address these components. Instead, please write a cohesive narrative (i.e., complete sentences across multiple paragraphs) that addresses these items. **Your project plan should be at least 400 words long**.

Now go forth and conquer!