Exercise 2.7: Data Analysis and Visualization in Django

Learning Goals

- Work on elements of two-way communication like creating forms and buttons
- Implement search and visualization (reports/charts) features
- Use QuerySet API, DataFrames (with pandas), and plotting libraries (with matplotlib)

Reflection Questions

1. Consider your favorite website/application (you can also take CareerFoundry). Think about the various data that your favorite website/application collects. Write down how analyzing the collected data could help the website/application.

   -**Probably my favorite website is The Athletic, from the New York Times. The Athletic collects a lot of data. It provides a lot of content related to sports, including interviews and other analysis related to whatever is covered. As far as collected data from users/readers, it would be interesting to see what topics, or sports, are the most popular, during certain times of year or tournaments, as well as comparing sports coverage to demographics. Although, it does include most read articles or what's been popular recently. The Athletic also recommends articles that are selected from staff.**

2. Read the Django official documentation on QuerySet API. Note down the different ways in which you can evaluate a QuerySet.

   -Asynchronous iteration, slicing, pickling/caching, repr(), len(), list(), bool(),

3. In the Exercise, you converted your QuerySet to DataFrame. Now do some research on the advantages and disadvantages of QuerySet and DataFrame, and explain the ways in which DataFrame is better for data processing.

   -DataFrames provide powerful built-in methods for filtering, transforming, and aggregating data. QuerySets lack advanced manipulation capabilities without additional queries. DataFrames also compute faster than QuerySets. DataFrames, via pandas, works smoothly with Matplotlib for visualizations.