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

- 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.
    - I like to use Pandora music to create playlists for running, chilling, and parties. I can add artists that I like and thumbs up songs and it makes suggestions for me to check out similar artists and songs. I don't mind that it is collecting data and analyzing these things for me because it tailors music for me that I will likely enjoy.

- Read the Django official documentation on QuerySet API. Note down the different ways in which you can evaluate a QuerySet.
    - After reading the Django docs, I learned that a QuerySet doesn't actually get data until you use it. Then it is evaluated to perform the things like loops, slicing, converting data, printing, and more. Basically, once you try to use the data, Django runs the database query.

- 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.
    - In this exercise, I used a QuerySet to pull recipes from the database, and a DataFrame to organize and chart them.
    - Here's what I learned about QuerySet, it comes from Django, is used to get data, can filter, and works in views. Data frames come from pandas and process data, They are good for counting, charting and reports.
    - I used a DataFrame to count things (like how many ingredients) and sort them, and pandas made that easier. It also works well with matplotlib to make the charts.