Exercise 2.7: Data Analysis and Visualization in Django

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.**

   One website I use often is Twitch, it takes a lot of data such as when I watch, what games I watch, who I watch the most, and how I watch to name a few. They can use this data to keep me and others interested in the service. Some examples would be giving recommendations based on the content you watch, or sending you push notifications during the time you usually watch.

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

   - Iteration: Goes through the objects one by one using a for loop
   - Slicing: Takes a ‘Slice’ of the Queryset. Will be returned as a list when using the “step” parameter with slice.
   - Pickling: Takes the data and changes it into a specified ‘pickled’ format. Generally used to store data in a more efficient format.
   - len(): Simply returns the length of the Queryset
   - bool(): Checks if a designated object exists in the queryset, and returns either true or false

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.**

	Advantages	Disadvantages
DataFrame	- Has a large array of data manipulation methods that make it very flexible - Works well with other Python libraries	- Not as fast as other options - Struggles when working with larger datasets
QuerySet	- Made for Django and thus makes it extremely easy to access data through Django models - Very efficient for simple operations	- Made for Django and thus is limited in other - Steep learning curve with code that can get very complicated on complex models

Why DataFrame is better:

The most important reason is flexibility. DataFrame has many more options for data analysis and thus allows for many things that are just not possible with QuerySet. DataFrame also integrates well into other Python libraries, opening even more options for data analysis.