Part 1: Make a plan for your dashboard

1. **Create a list of elements I want to have on the dashboard**
   - Brief introduction to provide a short summary of the dashboard's objective's
   - Have a bar chart to find the most popular stations
   - Have a line graph to summarize the yearly data to find seasonal patterns
     - Combine with monthly temperatures to find potential correlations
   - Have a map to find the most popular trips between stations
     - Distinguish between one-time trips and recurring trips
     - Plot the stations on the map to view the distance between stations
   - Have a histogram showing the distribution of trip durations
     - Alternatively, have a box plot showing the trip duration but user type. This could identify the medians and outliers based on user type.
   - I would like to implement some interactive features such as:
     - Dropdown & filters for each visualization (date, location, user type, weather)
     - This is dependent on my skill level for creating the interactive features

2. **Write down some questions to guide your analysis and explain how you intend to visualize the result to answer each of your questions.**
   - "What are the most popular stations in the city?"
     - Utilize a **bar chart** sorted from most to least used stations
   - "Which months were most trips taken? Is there a weather component at play?"
     - Utilize a **line graph**
     - I will be able to plot the number of trips for each month and combine it with the average monthly temperature in a second line.
     - This will show if there is a relationship between the temperature and the number of bikes used.
   - "What are the most popular trips between stations?"
     - Utilize a **map**
     - I can plot the most common bike trips with aggregation to distinguish between one-time trips and recurring trips.
     - Utilize line thickness or color to represent trip frequency
   - "Are the existing stations evenly distributed?"
     - Utilize a **map**
   - "What times of the day are most trips taken?"
     - Utilize a **line graph** for a simple hourly trend
     - Alternatively, I could utilize a **heatmap (hour vs. day of week)** to show peak usage times

Part 2: Gather and merge the data

https://github.com/jeff-frankenfeld/Citi_Bike_Dashboard