Project 3

Analytical Questions

1. **Average Monthly Temperature:** What is the average temperature for each month?
2. **Temperature Extremes:** What are the highest and lowest temperatures recorded?
3. **Humidity Trends:** How does average humidity vary throughout the year?
4. **Wind Speed Analysis:** What are the average and maximum wind speeds by month?
5. **Rainfall Patterns:** How does monthly rainfall compare to the annual total?
6. **Pressure Variation:** How do average barometric pressures vary over the year?
7. **Dewpoint Trends:** What are the average dewpoint trends over the months?
8. **Weather Extremes:** What are the maximum and minimum values for each weather metric (e.g., temperature, humidity, wind speed)?
9. **Heat Index Analysis:** What are the patterns in the maximum heat index over the year?
10. **Correlation Analysis:** What are the correlations between different weather metrics?

Visualization Questions

1. **Temperature Trends:** Create a line chart showing daily average temperature trends.
2. **Humidity Trends:** Create a line chart showing daily average humidity trends.
3. **Wind Speed Distribution:** Create a histogram of average wind speeds.
4. **Monthly Rainfall:** Create a bar chart showing rainfall for each month.
5. **Pressure Variation:** Create a line chart showing average barometric pressure trends.
6. **Dewpoint Trends:** Create a line chart showing daily average dewpoint trends.
7. **Weather Extremes:** Create a scatter plot showing maximum and minimum temperature over time.
8. **Heat Index Trends:** Create a line chart showing maximum heat index values over time.
9. **Wind Speed vs. Gust Speed:** Create a scatter plot comparing average windspeed and average gustspeed.
10. **Correlation Matrix:** Create a heatmap to visualize the correlation matrix of the weather metrics.