ASSIGNMENT ONE (Deliverable #1)

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1. Germany's GDP in Relation to Temperature:

- **Questions Addressed:**

  - How does Germany's GDP change with temperature fluctuations?

  - Is there a discernible pattern over the years?

- **Key Insights:**

  - GDP seems to correlate with temperature, with warmer years observing positive economic trends and colder years noting a decline.

- **Rationale for Design Choices:**

  - A dual-axis line chart is used to display both GDP and average temperature, allowing for a clear side-by-side comparison.

a. Stock Market & Seasonal Analysis:

- **Questions Addressed:**

  - How do stock market values shift with the changing seasons?

  - Is there a relationship between stock market performance and temperature?

- **Key Insights:**

  - The stock market appears to witness an upsurge during the warmer months, especially during summer and spring, suggesting a possible correlation with temperature.

- **Rationale for Design Choices:**

  - Bar charts delineate the stock market values across different years and seasons, while a scatter plot overlaid with a trend line reveals the trajectory of stock market values.

2. Death Rate & Temperature Analysis:

- **Questions Addressed:**

  - How does the death rate fluctuate with temperature variations in Germany?

  - Are there seasonal patterns to be identified?

- **Key Insights:**

  - A pronounced trend reveals that the winter months not only bring colder temperatures but also a heightened death rate in Germany.

- **Rationale for Design Choices:**

  - Scatter plots are employed to elucidate the correlation between death rates and temperatures, with the color and size of each data point denoting the season and the annual percentage change, respectively.

References:

For Berkeley Data Set:

https://www.kaggle.com/datasets/berkeleyearth/climate-change-earth-surface-temperature-data

For others:

https://www.macrotrends.net/countries/DEU/germany/gdp-growth-rate

https://www.macrotrends.net/countries/DEU/germany/death-rate