Capstone project I

**Title: Analysis of Electric Vehicle Population Data**

**Introduction:** In this report, I analyzed the "electric\_vehical\_population\_data.csv" dataset using Python to gain insights into the trends and characteristics of electric vehicle (EV) adoption over time. The dataset contains information about the population of electric vehicles in different regions and years.

**Step 1: Loading and Exploring the Data**

Data is loaded by importing the necessary libraries and loading the dataset into a Pandas DataFrame.

**Analysis of data: I took 3 hypotheses to analysis the data, EV adoptions over the year, EV adoptions by region, and adoption based on the vehicle cost.**

**Hypothesis 1: Electric Vehicle Adoption over the Years**

To investigate the trend in electric vehicle adoption, we create a line chart showing the total electric vehicle population over the years.

A graph showing the growth of an electric vehicle

Description automatically generated

The line chart clearly shows that electric vehicle adoption has experienced substantial growth over the years, indicating a positive trend in the transition towards electric mobility until current year.

**Hypothesis 2: Electric Vehicle Adoption by Region**

To investigate the electric vehicle adoption rate across different regions, we create a bar chart.

A graph with lines and numbers

Description automatically generated

The bar chart shows that WA has highest number of Eclectic vehicle adoption.

**3: Expensive Electric vehicle**

To explore the correlation between vehicle cost and electric vehicle adoption, a line chart is created.

A graph of a cost

Description automatically generated with medium confidence

A graph showing the top most expensive electric vehicles

Description automatically generated

Most of the electric vehicles sold are under the Base MSRP of $250000. Most of them are Tesla and Porsche.

**Conclusion:** Through data analysis and visualization using Python, valuable insights into the trends and characteristics of electric vehicle adoption has been identified. The line chart confirmed a significant increase in electric vehicle adoption over the years. The bar chart allowed us to compare electric vehicle adoption rates across different regions, WA has the most Electric Vehicle adopted. disparities. Finally, the cost of the vehicle also has a key relation in adoption of electric vehicles. Most of the vehicle are between the range of $50000 - $250000. Porche and Tesla are the most that are adopted.