a) (2 points) Title of the project – Be precise!

Analyzing & Visualizing the EV Vehicles Population.

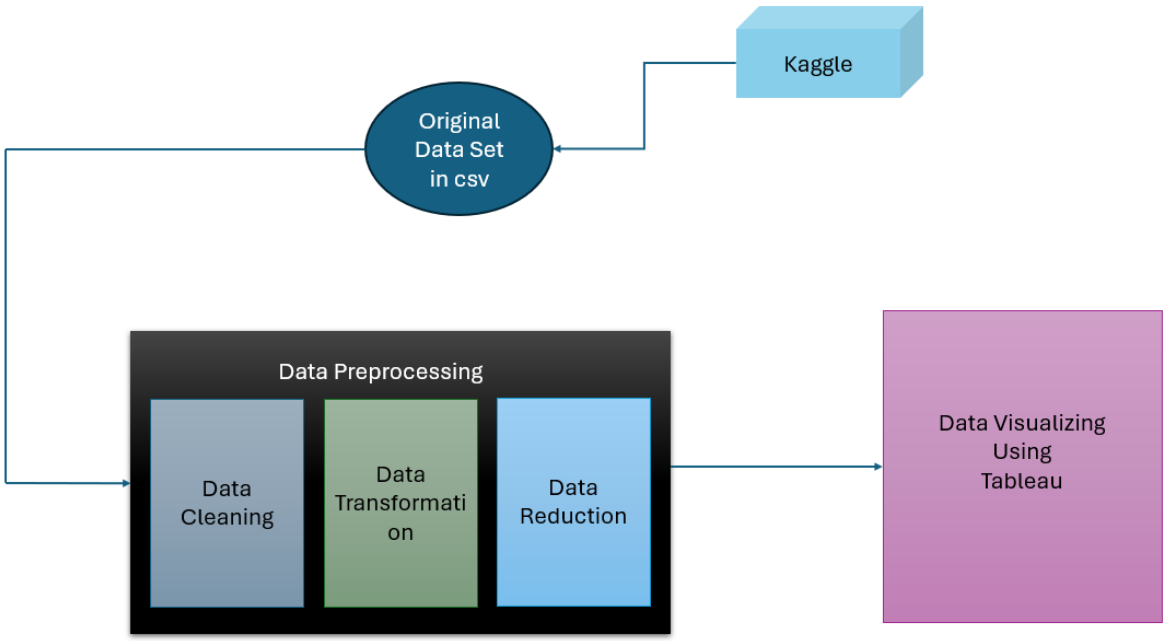
b) (5 points) Project idea – A detailed and concise description of what you plan to do in the
project.

1. **Data Acquisition**: Download the EV population dataset from Kaggle in CSV format.
2. Data Preprocessing**:** Use Python libraries such as Pandas to read the CSV file and perform necessary data preprocessing tasks like handling missing values, data cleaning, and formatting.
3. **Visualization with** Tableau: Utilize Tableau, a popular plotting library in Python, to create various visualizations such as line plots, bar charts, and histograms to represent different aspects of the EV population data. For instance:
    a. Line plots to show the trend of EV adoption over time.
    b. Bar charts to compare the EV population across different regions or manufacturers.
    c. Histograms to visualize the distribution of EVs by model year.

c) (3 points) What tools and technologies you plan to use for the project?

a. Pyspark and Tableau delivers everything you need to access, visualize and analyze your data are the tools & technologies.

d) (5 points) Sketch the high-level architecture or methodology of the project using a block
diagram. In other words, draw the data flow diagram for your project.



e) (5 points) Explain the diagram in the above diagram in simple words using the bullet list.

- Data gathered on EV population data from the external resources like Kaggle in the format of csv.
- We will extract the data with data frame removing the unrelated data as part of Data preprocessing i.e., cleaning using SQL queries.
- Data preprocessing is based on the goals that we are working for... with Pyspark.
- The preprocessed data must be displayed in the pictorial form using plots and graph with the comparison using tableau tool.

f) (10 points) Formulate and write the goals your team wants to investigate?

- **We did set the goals based on 5V's keeping in the mind i.e., Volume, Velocity, Variety , Value and Veracity.**
- **Compare EV Adoption Rates Across Regions.**
- **Total Count on EV vehicle sale till the date. (Volume)**
- **Examine Types of Electric Vehicles. (Variety)**
- **Comparing the average of electric range among the vehicles based in a particular period (Velocity).**
- **Analyze Electric Vehicle (EV) Adoption Trends Model Year.**
- **Total Count on EV vehicle sale till the date.**
- **Explore Price Sensitivity.**