**Method Summary**

**1. Data Import & Setup**

* **Libraries Imported**: Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn.
* **File Access**: Google Drive is mounted to retrieve an Excel dataset.

**2. Data Preprocessing**

* **Dataset Structure**: Columns include date, category, gvwr, fuel\_type, model\_year, fuel\_tech, mile\_range, num\_address, region, and veh\_population.
* **Data Type Conversion**:
  + category converted to string.
  + model\_year converted to integer to enable further processing.
* **Target Encoding**:
  + category column is target encoded using mean vehicle population values.
* **Handling Missing and Unknown Values**:
  + Rows with fuel\_type == 'Unknown' are removed.
  + Missing values in model\_year are dropped.
  + Rows where num\_address == 'Unknown' are eliminated.
  + The region column is dropped since it only contains a single value (Statewide).
* **Feature Engineering**:
  + vehicle\_age is created as current\_year - model\_year.
* **Categorical Correction**:
  + gvwr values are filled based on predefined category mappings (T1, T2, etc.).

**3. Machine Learning Model**

* **Train-Test Split**:
  + Data is split into training and testing sets.
* **Model Selection**:
  + **Random Forest Regressor** is chosen for predictive modeling.
* **Evaluation Metrics**:
  + **Mean Squared Error (MSE)**
  + **Accuracy Score**
  + **R² Score**