Car Data Analysis Using Power BI

# Introduction

This project involves performing a comprehensive analysis of car data using Power BI. The goal is to gain insights into pricing trends, fuel efficiency, brand popularity, and other critical metrics through interactive dashboards and visualizations.

# Objectives

- Analyze the dataset to discover insights and patterns.  
- Create interactive dashboards using Power BI.  
- Help stakeholders make data-driven decisions based on analysis results.

# Dataset Description

The dataset includes information about various cars with attributes such as:  
- Brand  
- Price  
- Fuel Type  
- Mileage  
- Year of Manufacture  
The data was cleaned and prepared for analysis using Power BI.

# Data Cleaning and Preparation

Before analysis, the dataset was preprocessed:  
- Missing values were handled appropriately.  
- Data types were corrected for consistency.  
- Calculated columns were added for further insights.  
- Duplicates and inconsistencies were removed.

# . Data Analysis and Visualizations

Several visualizations were created using Power BI, including:  
- Brand vs Average Price  
- Distribution of Fuel Types  
- Mileage vs Price correlation  
- Year-wise car trends  
These visuals helped uncover important trends in the dataset.

# Dashboard Overview

A Power BI dashboard was built to bring all insights together. The dashboard includes:  
- Slicers for filtering by brand, year, and fuel type  
- Charts showing comparisons and trends  
- KPI indicators and summary tiles

# Conclusion

The Power BI analysis of car data provided actionable insights for decision-making. Trends such as brand pricing, fuel type distribution, and performance across years were effectively visualized. This demonstrates the power of BI tools in handling and presenting complex datasets.

# Future Work

- Include real-time data sources for dynamic dashboards.  
- Explore predictive analytics for pricing or demand forecasting.  
- Expand to other datasets like electric vehicles or regional car sales.