Car Price Prediction Project

The price of a car depends on a lot of factors like the goodwill of the brand of the car, features of the car, horsepower and the mileage it gives and many more. Car price prediction is one of the major research areas in machine learning.

# Findings

* Car age (derived from manufacturing year) negatively correlates with price.
* Present price (ex-showroom price) has the highest positive impact on the selling price.
* Manual transmissions and diesel engines tend to retain value better.
* More driven kilometers decrease the car’s resale value.
* Individual sellers generally price lower than dealers.

# Model Performance

A Linear Regression model was used to predict car selling prices.  
R² Score (Train): ~0.91  
R² Score (Test): ~0.85  
The model performs reasonably well, capturing key relationships among features.

# Feature Importance

* Present\_Price - Strongest positive impact on selling price.
* Car\_Age - Older cars are priced lower.
* Driven\_kms - More usage lowers price.
* Fuel\_Type\_Diesel - Diesel cars generally have higher resale value.
* Transmission\_Manual - Manual cars are slightly more common and lower priced.

# Future Recommendations

* Include features such as horsepower, mileage per liter, or accident history.
* Collect and incorporate brand reputation scores from external sources.
* Use ensemble or non-linear models for better accuracy.
* Update the dataset periodically with new car models and pricing trends.
* Consider deploying the model using a web interface for real-time predictions.