Capstone Project
Used Cars Price Prediction

Context

There is a huge demand for used cars in the Indian Market today. As sales of new cars have slowed down in the recent past, the pre-owned car market has continued to grow over the past few years and is now larger than the new car market. Cars4U is a budding tech start-up that aims to find footholes in this market.

In 2018-19, while new car sales were recorded at 3.6 million units, around 4 million second-hand cars were bought and sold. There is a slowdown in new car sales and that could mean that the demand is shifting towards the pre-owned market. In fact, some car owners replace their old vehicles with pre-owned cars instead of buying a new automobile.

Unlike new cars, where price and supply are fairly deterministic and managed by OEMs (Original Equipment Manufacturer / except for dealership level discounts which come into play only in the last stage of the customer journey), the used car market is a very different beast, with large uncertainties in both pricing and supply. Several factors, including mileage, brand, model, year, etc. can influence the actual worth of a car. From the perspective of a seller, it is not an easy task to set the correct price of a used car. Keeping this in mind, the pricing scheme of these used cars becomes important in order to grow in the market.

Objective

Come up with a pricing model that can effectively predict the price of used cars and can help the business in devising profitable strategies using differential pricing.

Dataset

The dataset contains the following attributes:

- **S.No.:** Serial Number
- **Name:** Name of the car which includes Brand name and Model name
- **Location**: The location in which the car is being sold or is available for purchase (Cities)
- **Year:** Manufacturing year of the car
- **Kilometers_driven:** The total kilometers driven in the car by the previous owner(s) in KM
- **Fuel_Type:** The type of fuel used by the car (Petrol, Diesel, Electric, CNG, LPG)
- **Transmission:** The type of transmission used by the car (Automatic / Manual)
- **Owner:** Type of ownership
- **Mileage:** The standard mileage offered by the car company in KMPL or KM/KG
- **Engine:** The displacement volume of the engine in CC
- **Power:** The maximum power of the engine in BHP
- **Seats:** The number of seats in the car
- **New_Price**: The price of a new car of the same model in INR 100,000
- **Price:** The price of the used car in INR 100,000