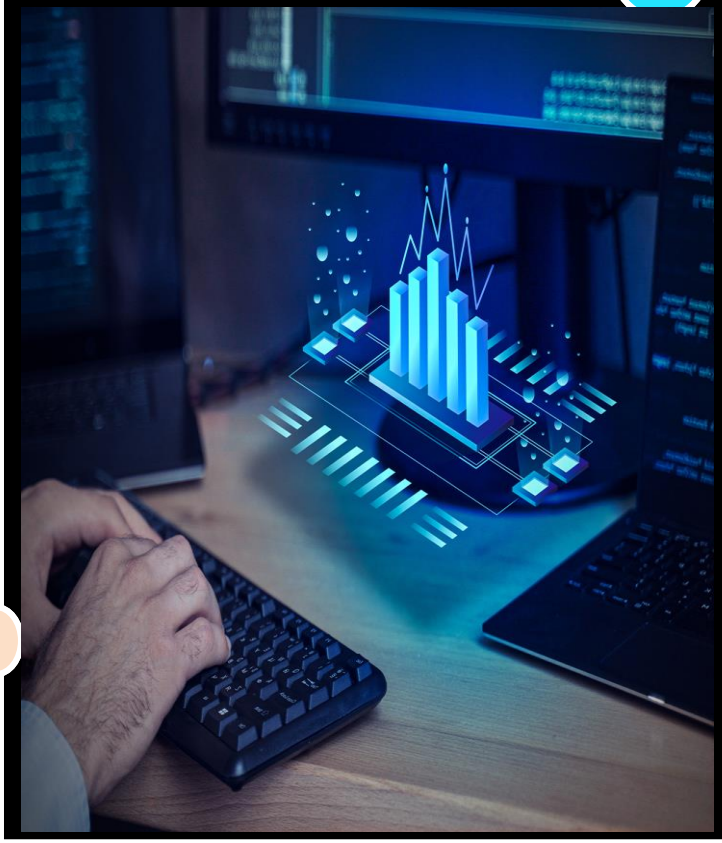
WELCOME

To our presentation



Data Analytics with SQL

Presented by sehba khan

Introduction

The dataset is a structured collection of data organized and stored together for analysis or processing.

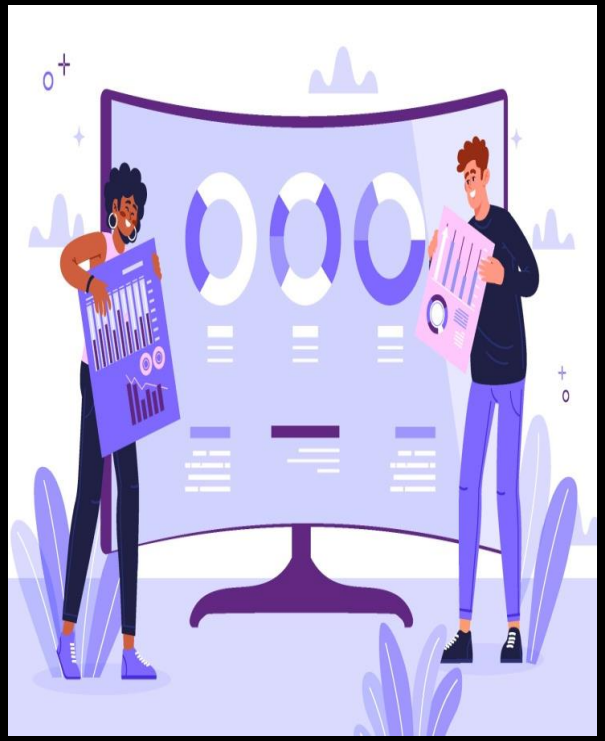
The project aims to achieve the following objectives:

- Identify trends and patterns in car sales, prices, and customer preferences.
- Analyze the Cars24 dataset to gain insights into the automotive market.
- Understand the factors that influence car prices and customer buying decisions.

Significance of the Analysis:
The analysis of the Cars24 table provides valuable insights that can greatly impact decision-making, understanding, and breaking it down into parts, and drawing conclusions.

Dataset Overview

The dataset from Cars24 table a comprehensive collection of automotive listings. It contains detailed information about various cars available for sale.



* **Key Columns:**

Car Name: Identifies model of the car.

Year: Indicates the year of manufacture.

Selling Price: Represents the listed price for each car.

Kilometers Driven: Reflects the mileage or distance traveled by car.

Fuel: Specifies the type of fuel.

Seller Type: Differentiates between individual sellers and dealerships.

Transmission: Indicates the type of transmission (e.g., manual, automatic).

Owner: Specifies the number of previous owners of the car.

Mileage: Represents the fuel efficiency of the car in terms of km per liter.

Engine [CC]: Indicates the engine displacement in cubic cm.

Max Power: Specifies the maximum power output of the car's engine.

Seats: Indicates the seating capacity of the car.

Methodology

Data Retrieval: SQL queries are used to extract specific columns such as car name, year, selling price, kilometers driven, etc from the “Cars24" table.

Data Transformation: SQL queries may involve transforming the data by filtering based on specific criteria like make, model, or year, sorting data by selling price or km driven, and aggregating information such as average mileage or maximum power by fuel type or transmission.

Analysis: SQL queries are applied to analyze the data, possibly identifying trends in selling prices based on car year or make, evaluating the distribution of km driven by fuel type or seller type, and determining the average mileage or maximum power for different types of cars.

Visualization: Results from SQL queries can be exported to visualization tools for further analysis. This could involve creating charts or graphs to visualize trends in selling prices, km driven, or other attributes across different categories of cars.

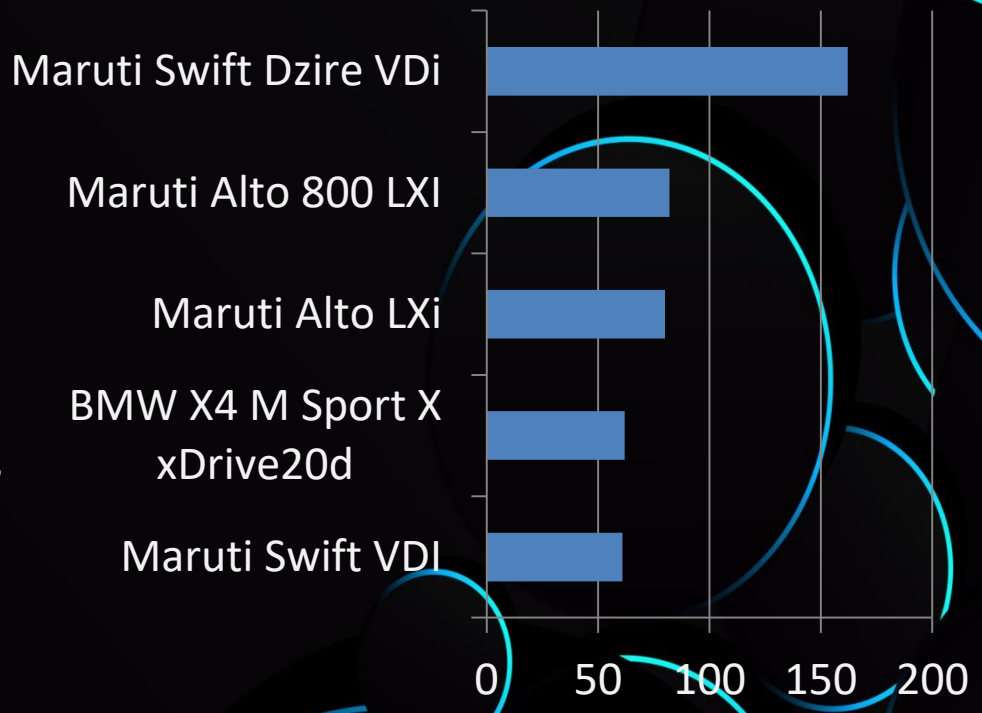
Insight - 1

Top Selling Car Brands

```
SELECT  name, COUNT(*)  as  total_sell
FROM  Cars24
GROUP BY  name
ORDER BY  total_sell  DESC
LIMIT 5;
```

Explanation:

This query identifies the top-selling car brands on Cars24 by counting the number of cars sold for each brand. It helps in understanding customer preferences and market demand.

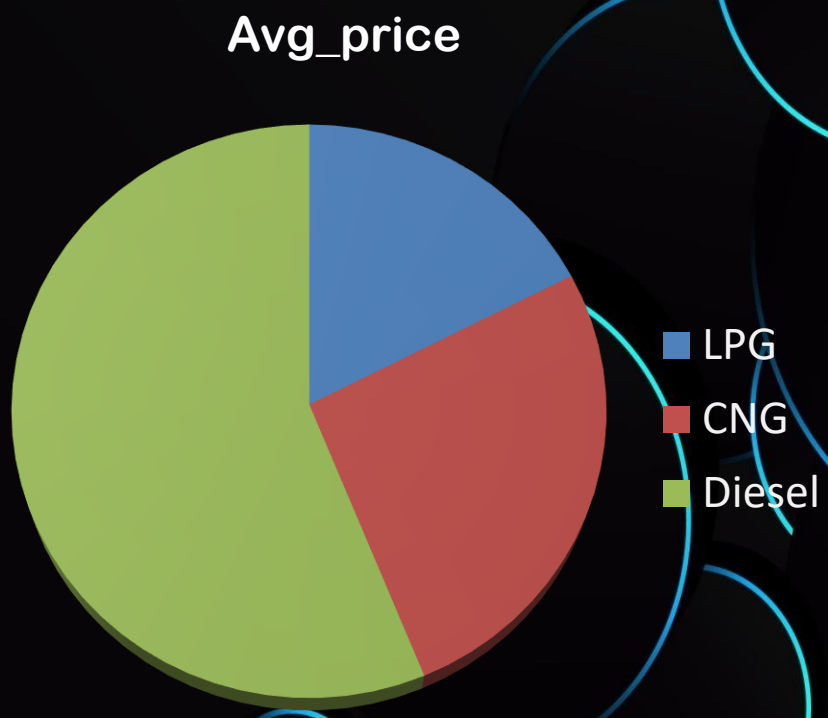


Insight - 2

Price Distribution by Fuel Type

```
SELECT  fuel,  AVG(selling_price) as  avg_price
FROM  Cars24
GROUP BY  fuel;
```

Explanation:
This query calculates the average selling price of cars based on their fuel type. Visualizing this distribution helps in comparing pricing trends between different fuel types.



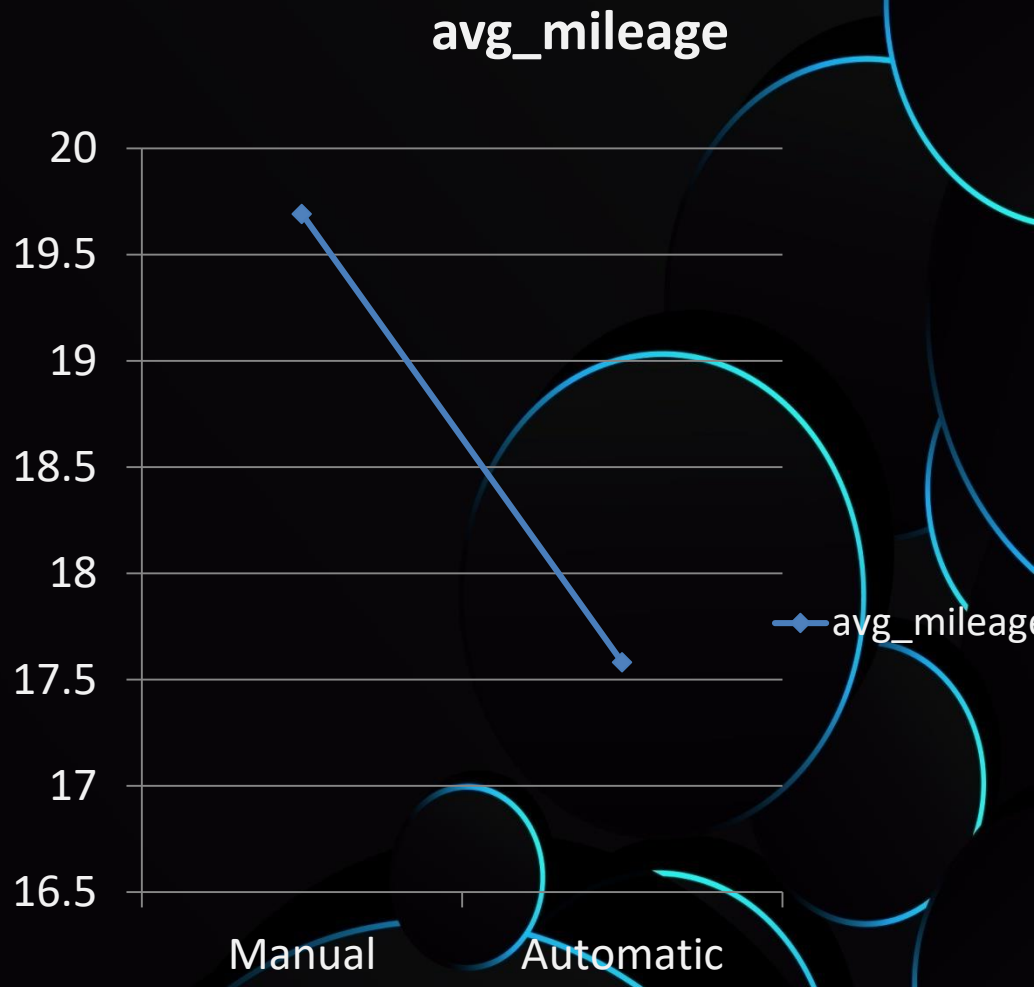
Insight - 3

Mileage Trends by Transmission

```
SELECT  transmission, AVG(mileage) as
avg_mileage
FROM  Cars24
GROUP BY  transmission;
```

Explanation:

This query analyzes the average mileage of cars based on their transmission type. It provides insights into the fuel efficiency of different transmission systems.



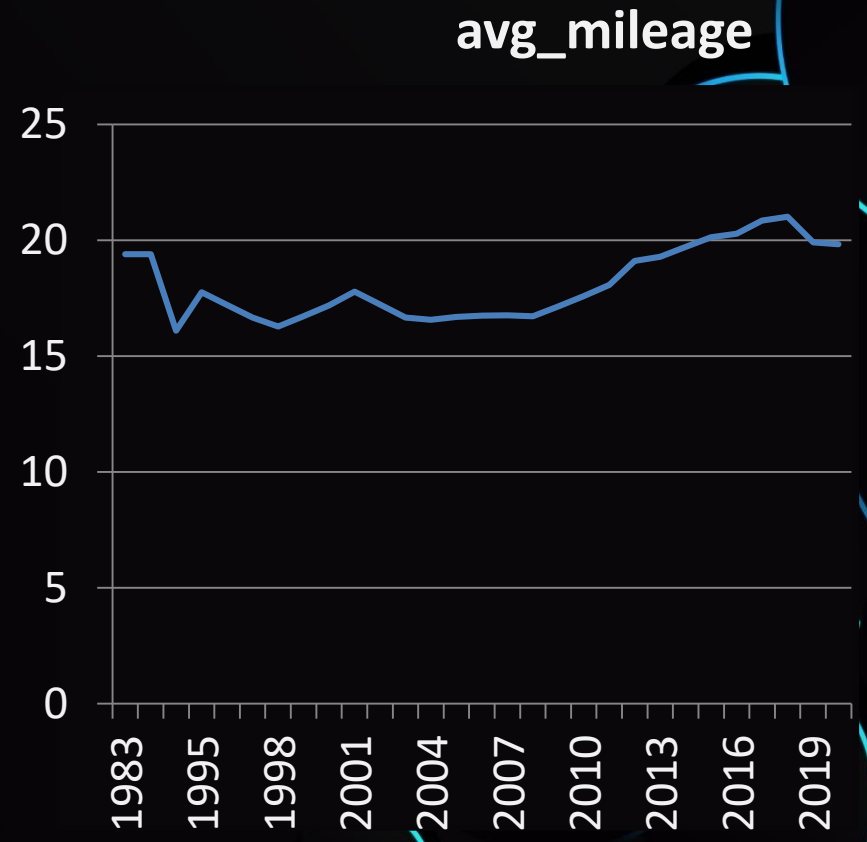
Insight - 4

Mileage Trends by Year

```
SELECT  year,  AVG(mileage) as  avg_mileage
FROM   Cars24
GROUP  BY  year
ORDER  BY  year;
```

Explanation:

This query identifies the average mileage of cars for each year of manufacture, providing insights into the fuel efficiency trends over time.

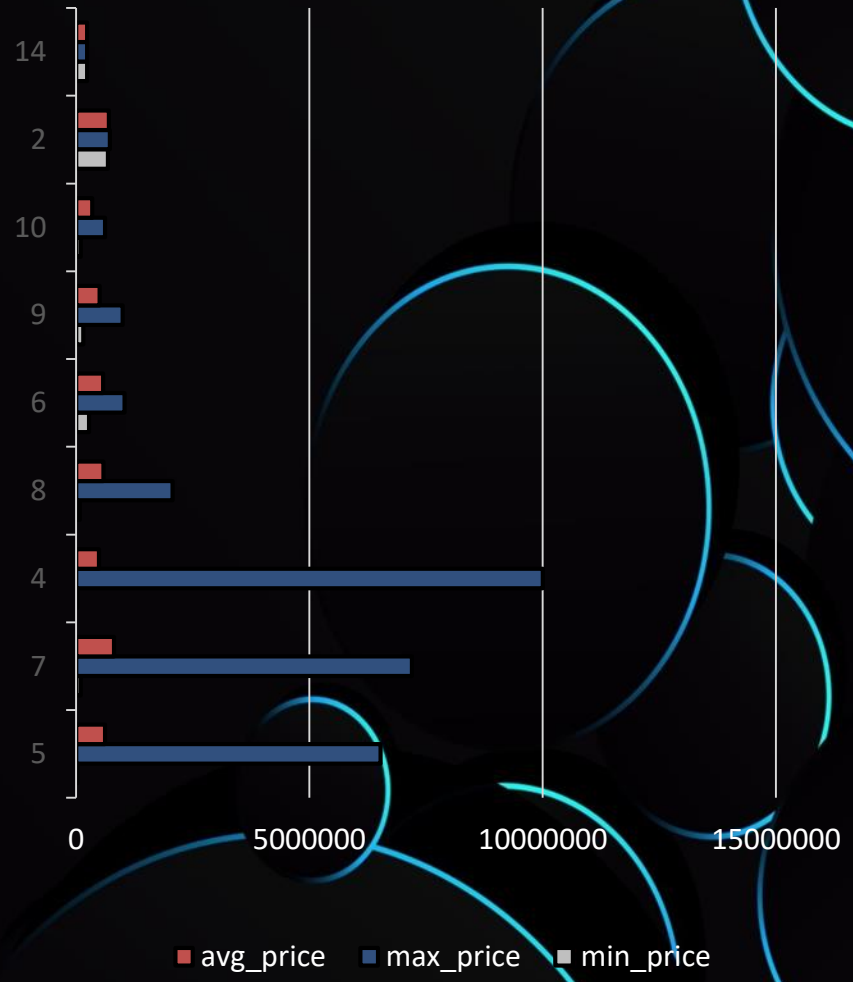


Insight – 5

Find the Minimum, Maximum, and Average Selling prices

```
SELECT seats,    MIN(selling_price) AS min_price,
MAX(selling_price) AS max_price,
AVG(selling_price) AS avg_priceFROM cars24GROUP
BY seats;
```

Explanation:
This query idetify the minimum, maximum, and average selling prices of cars based on their seating capacity. It provides insights into pricing related to car size, which can guide pricing strategies and customer targeting .

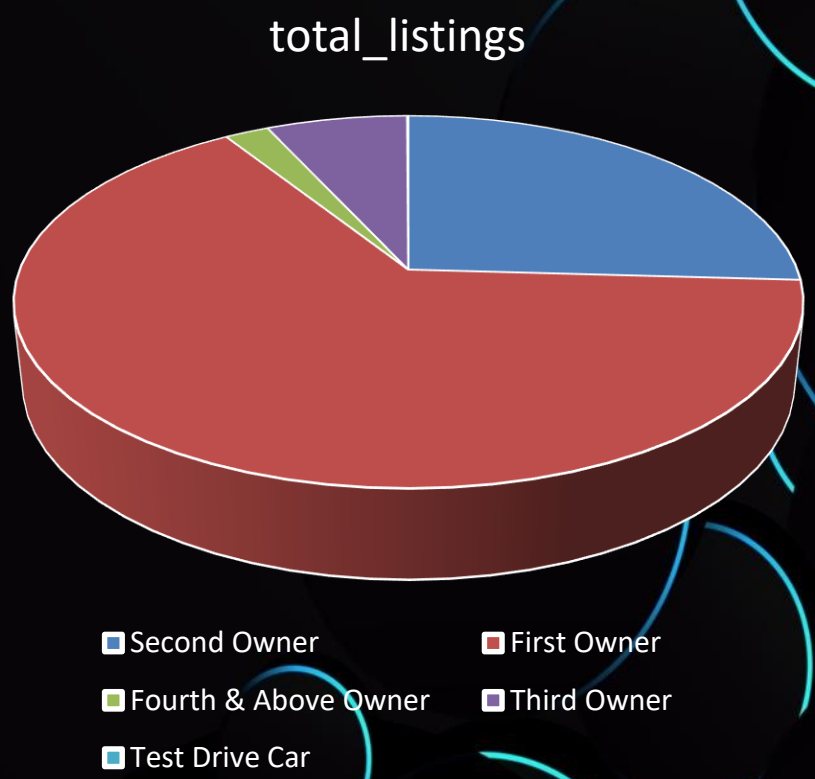


Insight – 6

Count the number of car listings grouped by owner type

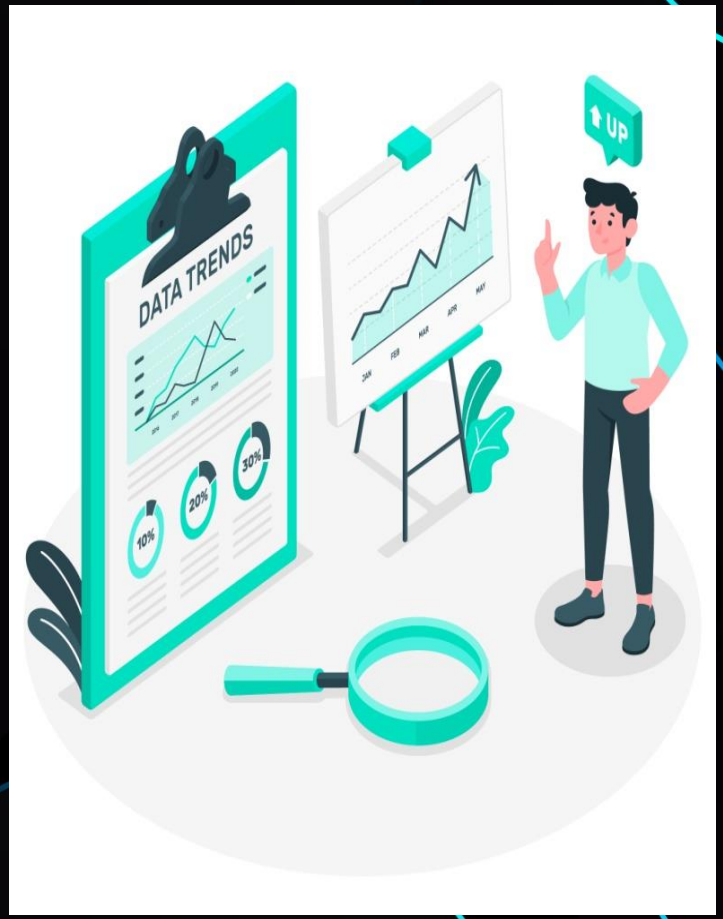
```
SELECT owner, COUNT(*) AS  total_listings
FROM Cars24
GROUP BY owner;
```

Explanation:
This query counts the number of car listings based on their owner , distinguishing between single and multiple ownership. It offers insights into customer preferences and guiding pricing and marketing strategies.



Conclusion

The analysis of dataset has provided valuable insights and uncovered several key findings. We have successfully achieved our goals and answered the research questions that were initially posed.



Main Findings:

- Identified top-selling car models and makes.
- Analyzed price distribution and mileage trends.
- Explored the impact of seller type on selling prices.

Challenges :

- Data quality and query optimization were critical challenges.
- Importance of through data preprocessing for accurate analysis.

Lessons Learned :

- This analysis has provided us with valuable lessons that will inform future projects and analysis and Contextual understanding is essential for meaningful insights.

Future Work:

- Implement predictive modeling to forecast car prices and demand.
- Explore customer segmentation based on purchasing behavior and demographics.
- Enhance data collection methods to include additional variables like customer reviews and vehicle specifications.
- Enhance the dataset with additional variables such as car condition and features.
- Explore geographical trends in car preferences and pricing.
- Develop personalized recommendation systems based on customer preferences and browsing history.

Thanks

- Thank you for your attention and participation.
- Contact Information: [sehbakhan43@gmail.com, 9214981586]
- Questions?