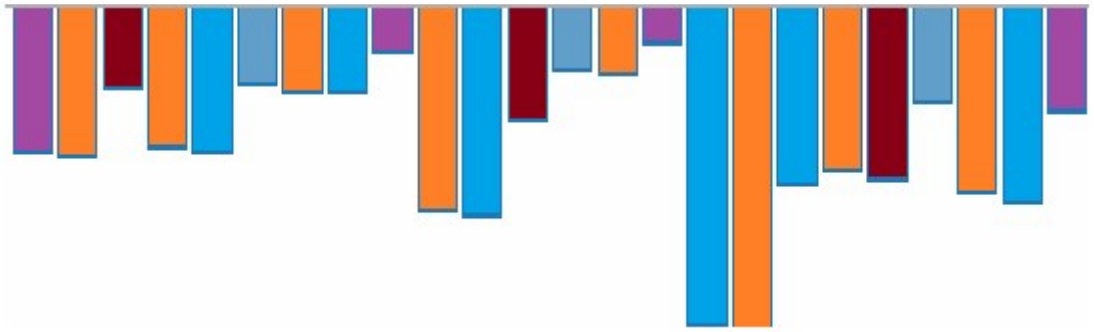
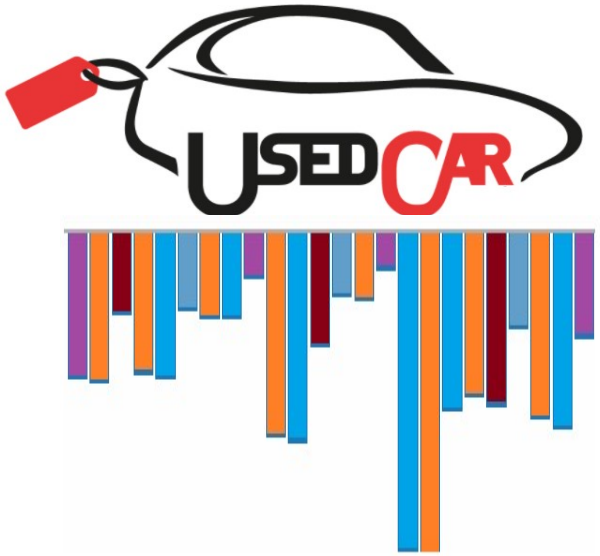
EDA on Used Car Sales



Yogananda Rao Locherla

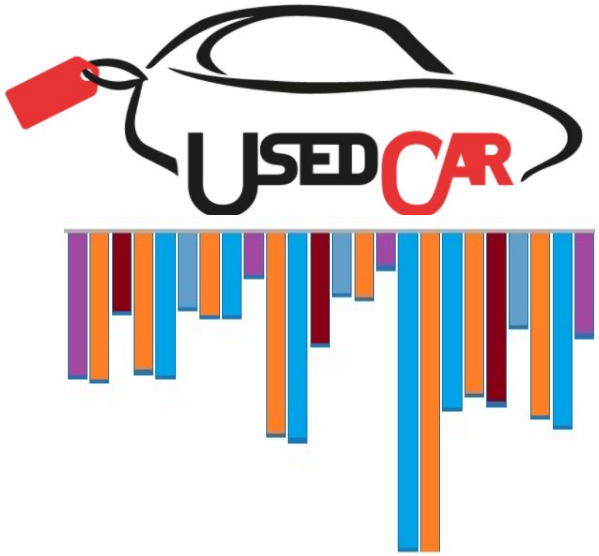
- Introduction to Used Car Sales Dataset
- Problem Statement
- Exploring the Dataset
- Observations & Conclusions
- Actionable Insights

Introduction



- Dataset contains one of the used cars company sales.
- ~ 10k records
- Few decades sales history
- Visual Data Analysis

Introduction



Id	Feature	Description
01	car	Car brand name
02	model	Available car different Variants
03	year	purchasing Year
04	body	Body type-Hatchback, Sedan, Crossover etc
05	mileage	car Mileage
06	engV	Engine version
07	engType	Car Fuel type - Petrol, Diesel, gas etc
08	drive	Wheel Drive Front, back
09	registration	Check if the vechile is registered
10	price	Price of Car in $

The profiing report describes

- There are 113 duplicated rows (Action - Remove the duplcates)
- 1% of missing cells are in the dataset (Action - Replace with default/mean value or discard the record)
- 5 Categorical variables, 4 numeric variables and 1 boolean value

Dataset statistics

Number of variables	10
Number of observations	9576
Missing cells	945
Missing cells (%)	1.0%
Duplicate rows	113
Duplicate rows (%)	1.2%
Total size in memory	748.2 KiB
Average record size in memory	80.0 B

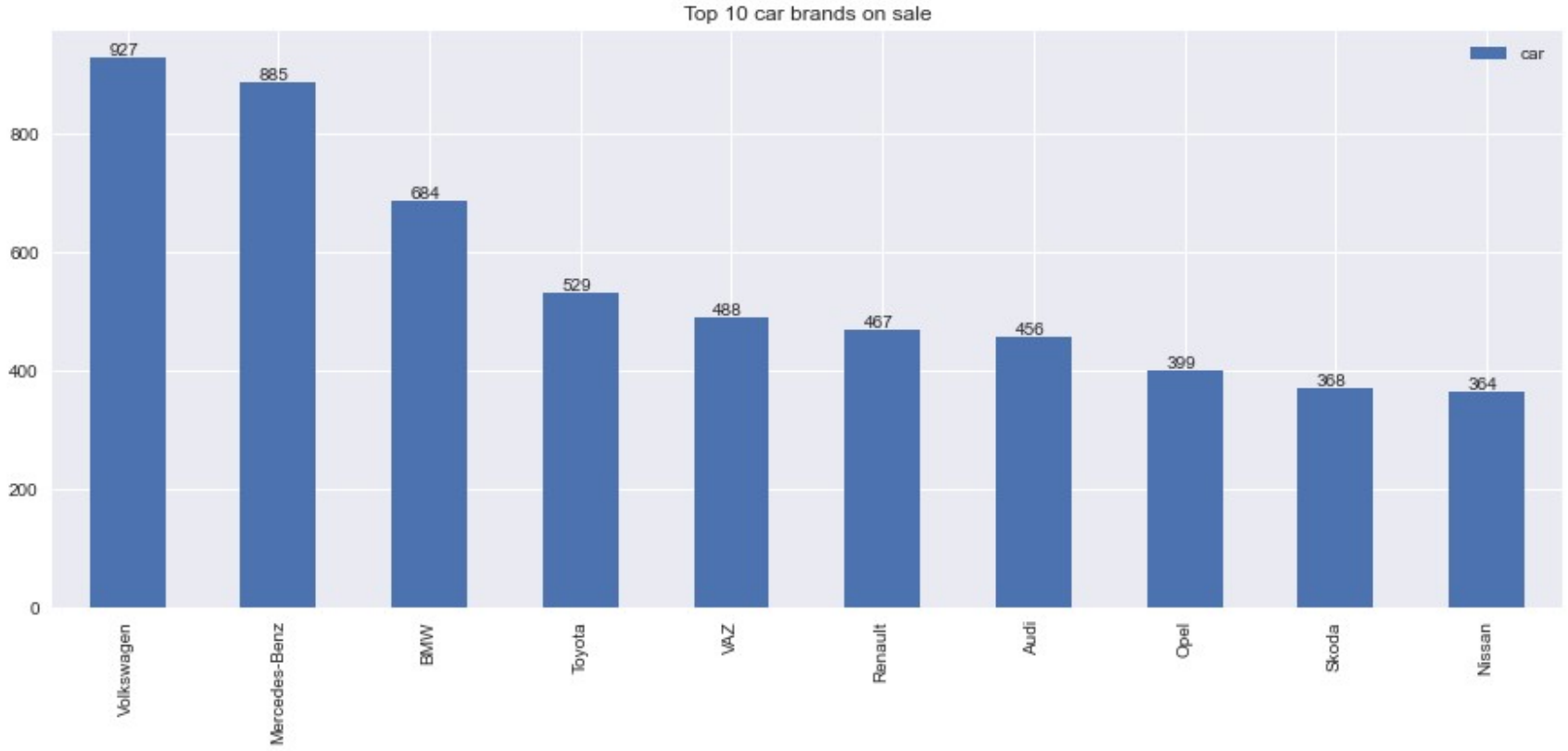
Variable types

CAT	5
NUM	4
BOOL	1

Problem Statement

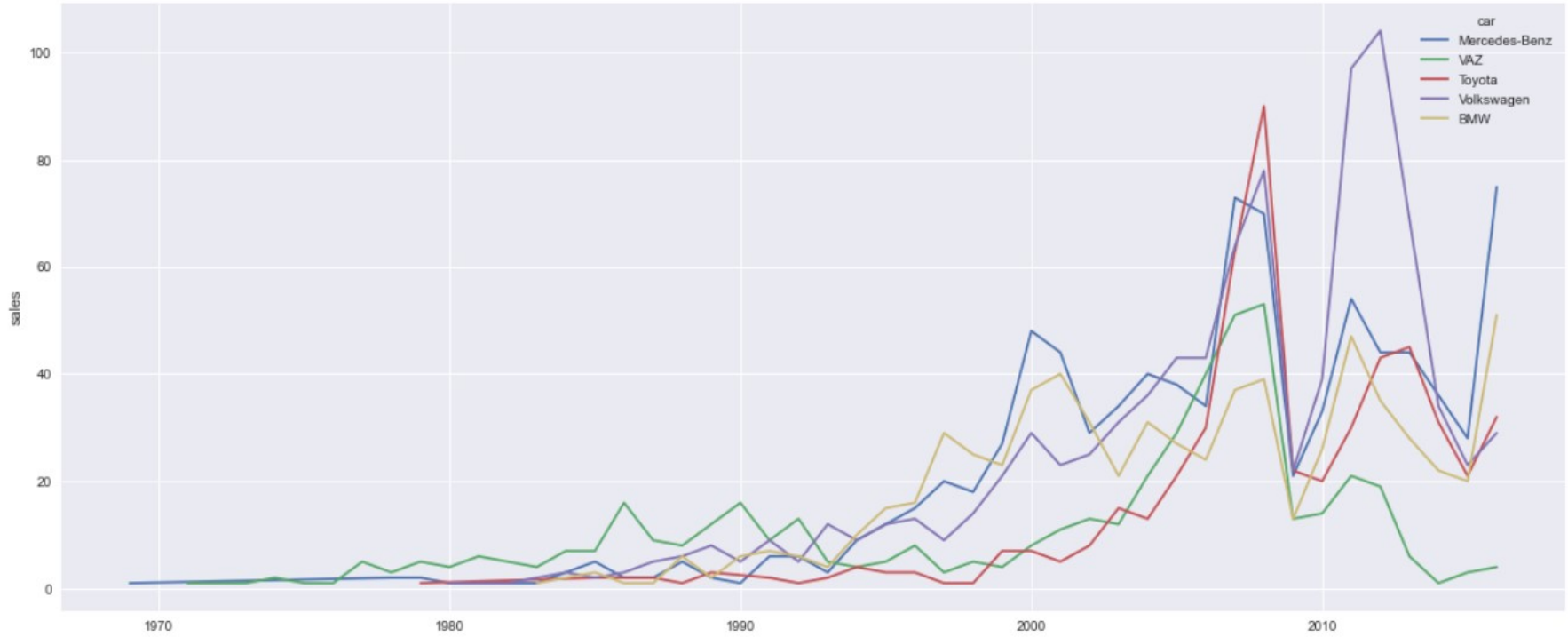
- The company has earned its name because of sincerity in work and quality of services.
- But for past few months their sales is down.

Data Exploration



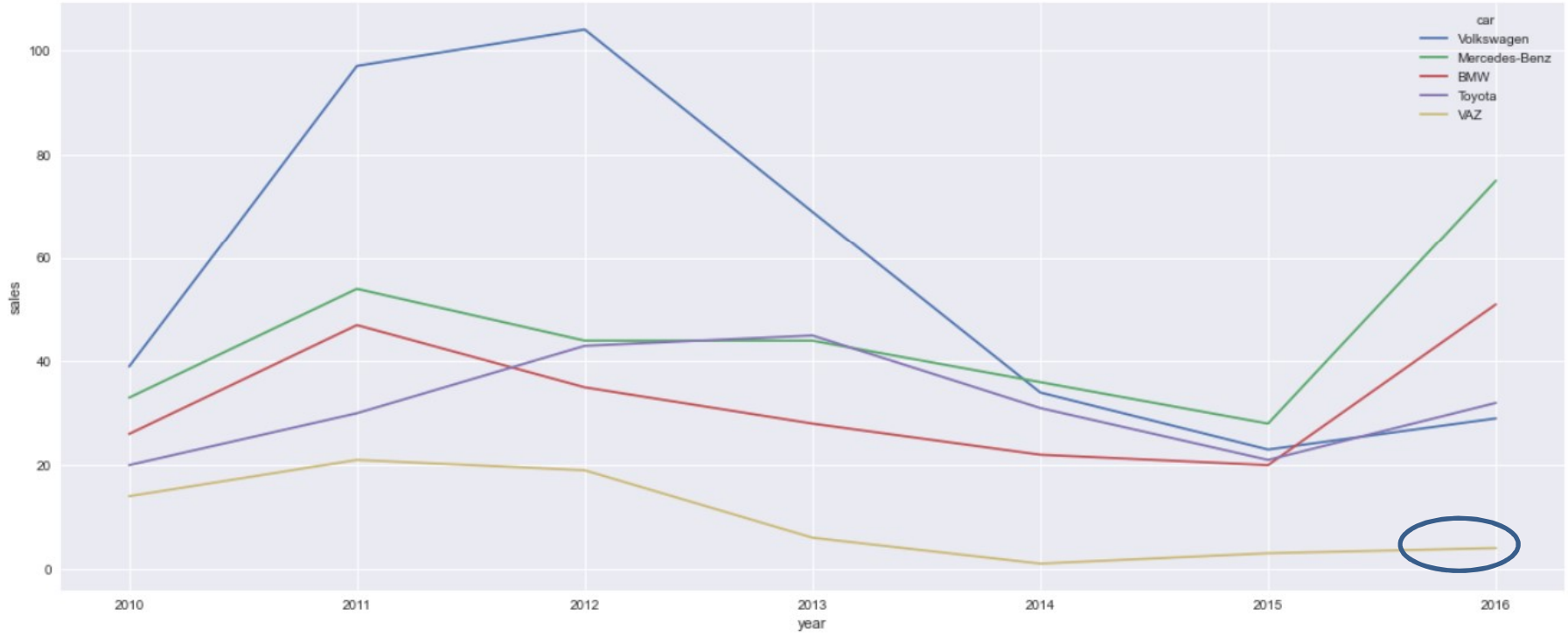
Data Exploration

Year wise car sales

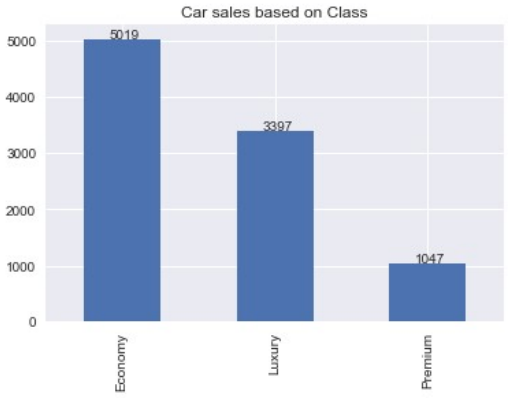


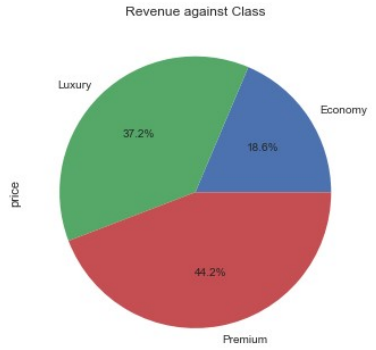
Data Exploration

Year wise recent car sales

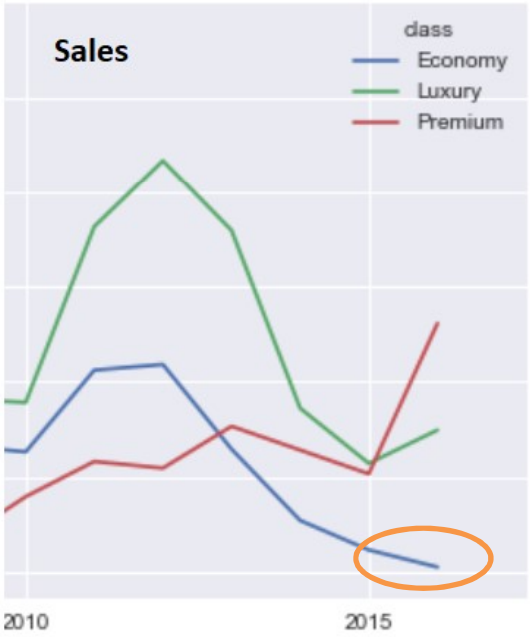


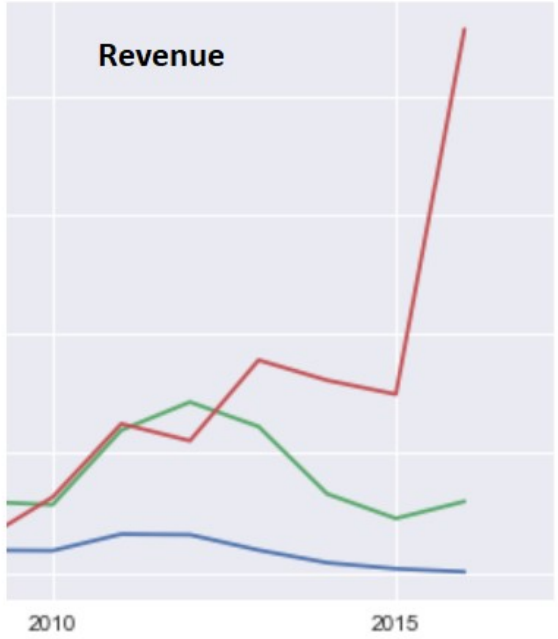
Data Exploration





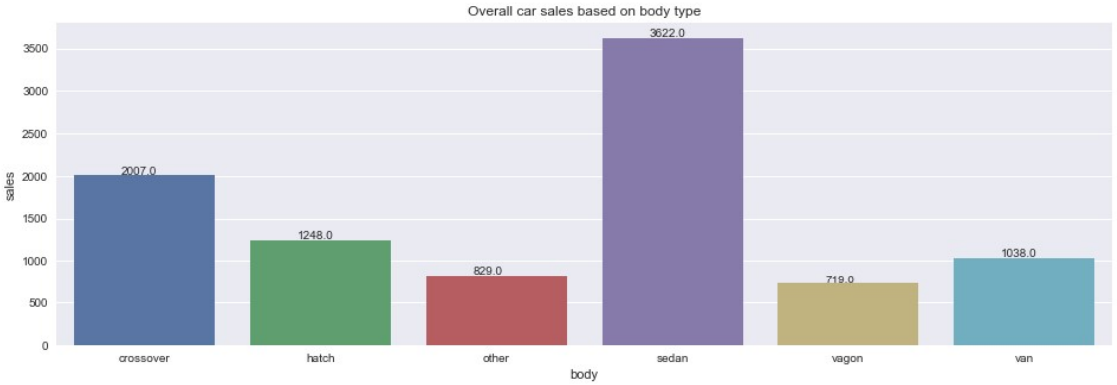
Sales & Revenue based on Class.

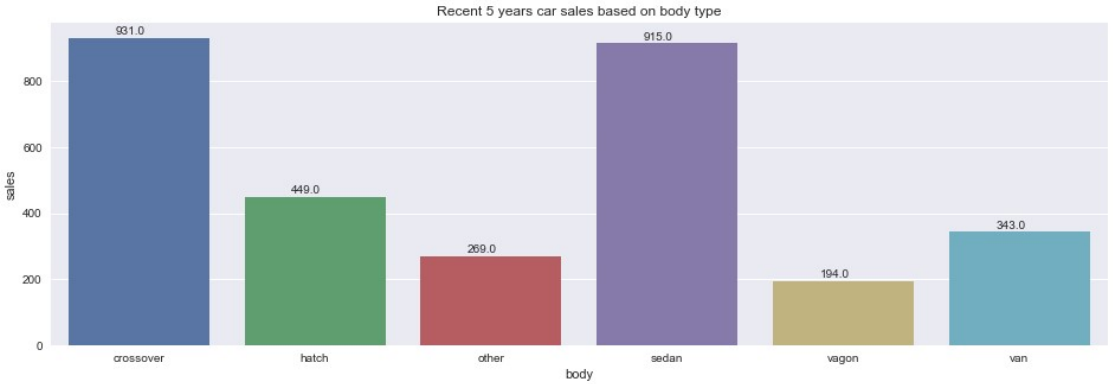


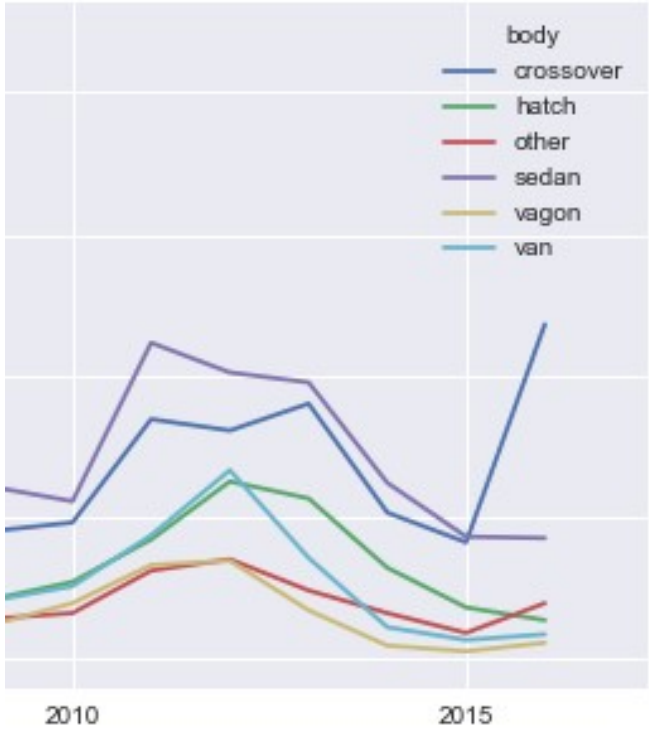


Data Exploration

Sales based on body type.

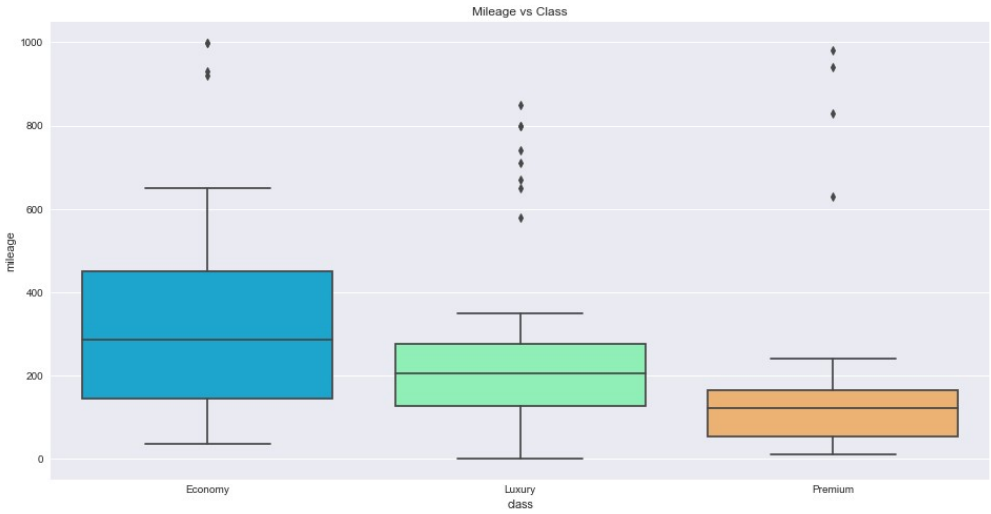






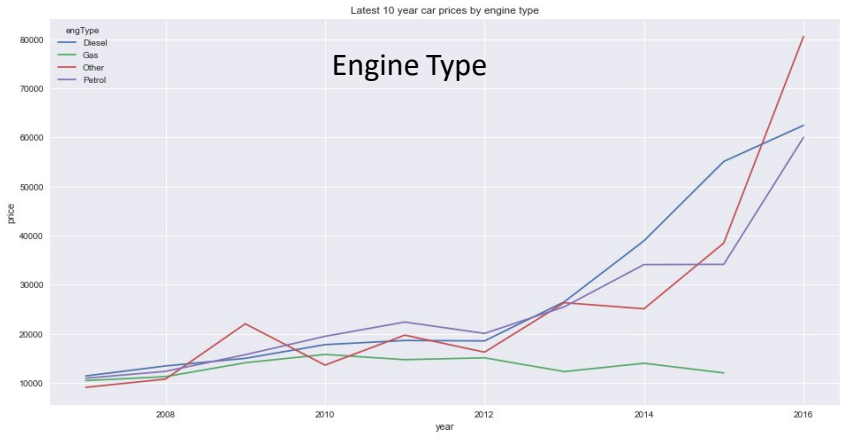
Data Exploration

Mileage and Registrations by ‘Class’

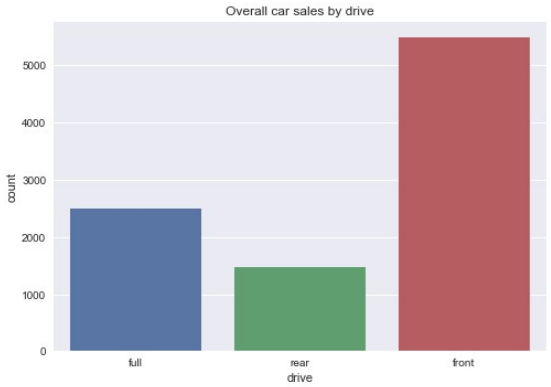


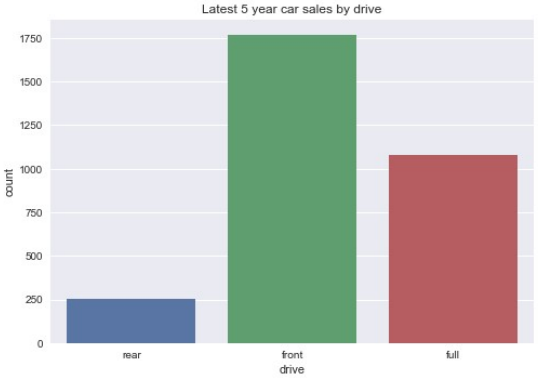
Data Exploration

Car prices based on Class & Eng Type



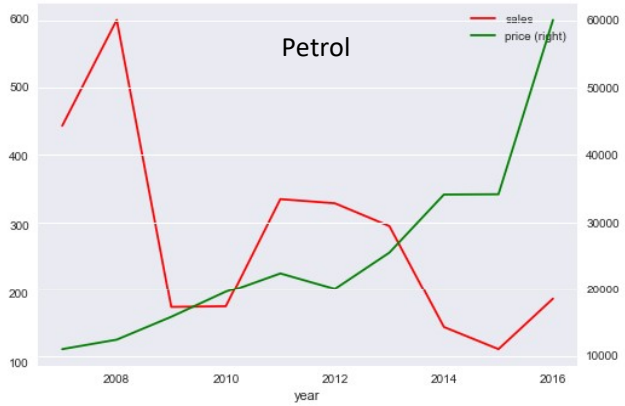
Car sales based on Drive

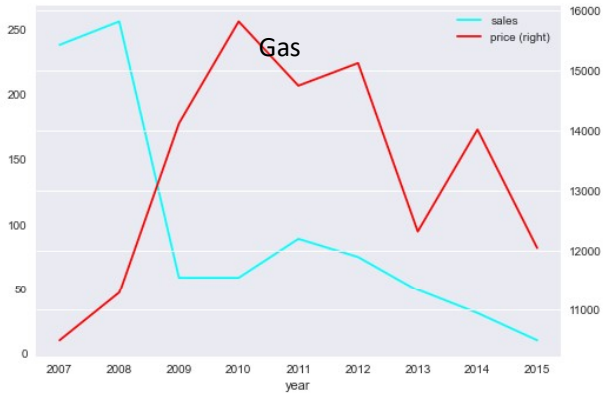




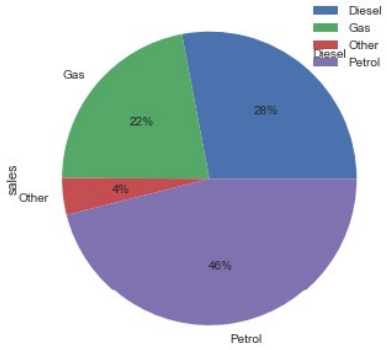
Data Exploration

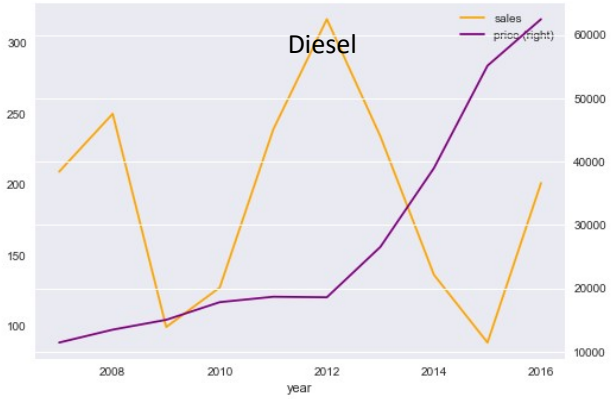
Prices and Sales based on Engine Type

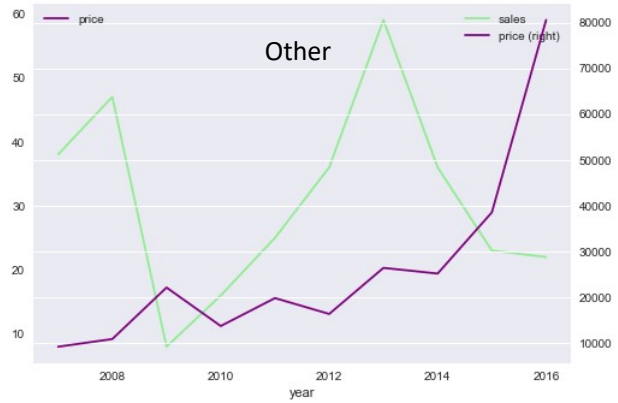




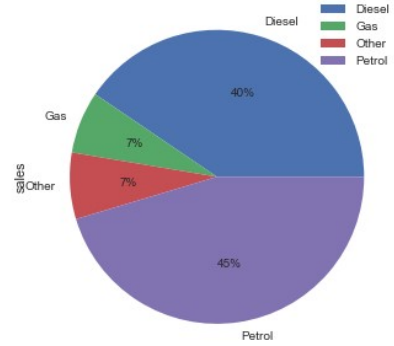
Before 2012





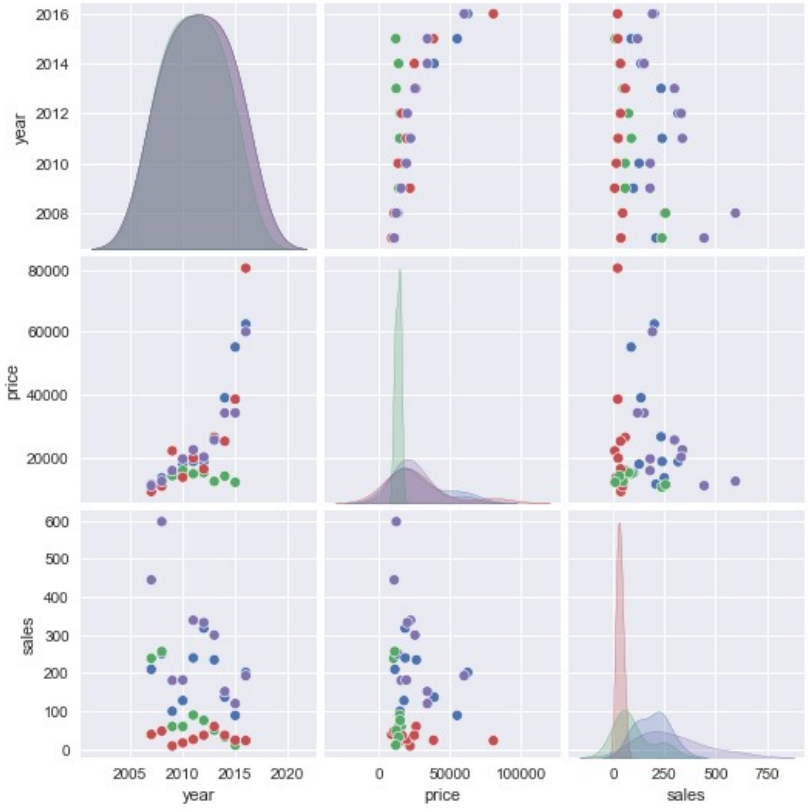


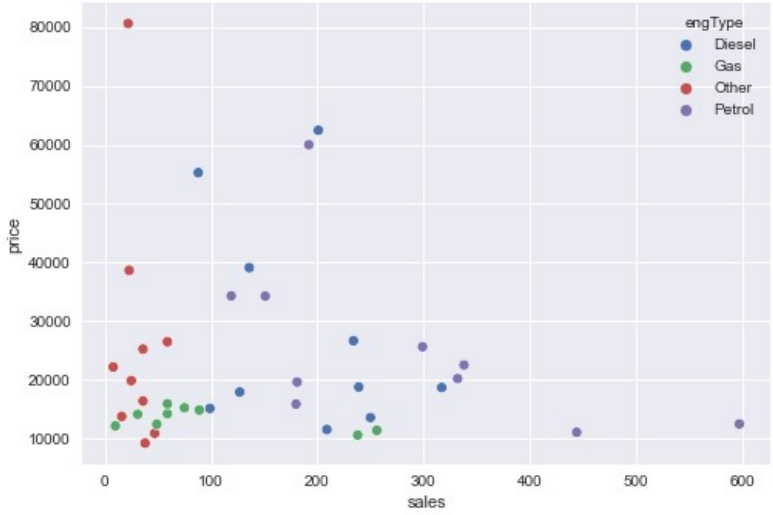
After 2012



Data Exploration

Correlation between Sales and Prices over the years





Observations & Conclusions

1.Most **sales happening price range** is between **10000 to 40000 /-**
2.There are **very few cars sold** in **20000 to 36000** price bracket, which is best competitive price range
3.Economy cars are mostly comes with Gas engines, but in the **recent days customers are not preferring Gas cars**. Where as

- •Petrol car sales are consistent
- •Diesel car sales are gaining momentum
- •Other car sales are gradually increasing

4.None of the cars sold from **Economy** segment in year **2016**.
5.Car registrations are most considered in Luxury and Premium cars
6.Even with affordable price range, gas and other engine type cars are least preferred.
7.Most preferred

- •engine types are Petrol and Diesel
- •body types are cross-overs and sedan
- •Other type cars are consistent and gradually increasing in sales

8. Overall, Sedans are always on demand follows with Cross-over and hatch.
9. Tremendous sales reported in **2016** for these super premium cars by **Bentley, Land Rover, Toyota, Tesla, Lexus, Cardillac & BMW**
10. recently **Crossovers** are leading in sales followed by **sedans**
11. Most of the recent premium cars engine type is **Petrol**

Cars Loose / Gain Market

- VAZ
- Moskvich-AZLK
- Lincoln
- UAZ
- GAZ
- Opel
- Mazda
- Volvo
- Fiat
- Peugeot
- Daewoo
- Chevrolet
- Audi
- Ford
- Mercedes-Benz
- Volkswagen
- BMW
- Nissan
- Toyota
- Mitsubishi
- Renault
- Skoda
- Hyundai
- Honda

Actionable Insights

Cars should be available from all price ranges.

→ As **10000 to 40000 /-** is the most sales happening price range and there are no cars available in **20000 to 36000 /-** price bracket, procuring these price ranged cars should potentially improves the sales.

Procure cars based on customer trends.

→ Petrol and Diesel cars are most popular.
→**Full** wheel drive is most preferred in Crossovers and **Front** wheel drive in Sedan cars
→**Luxury** and **Premium** used cars booming sales due to hike in new car prices.

Tactical & Strategic Decision

→Less preferred old cars should be announced with great deals and clear the stock. In that way we can save money, renting space for storage
→Procure more demanded cars like Mercedes-Benz, BMW, Volkswagen, Toyota, Nissan, Ford, Audi.. etc
→ Procure more Economy price range cars which is of Petrol or Diesel engine types