

# Predict price of Saudi car's

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# QUESTIONS

Q1: What is the most Popular Origin Car?

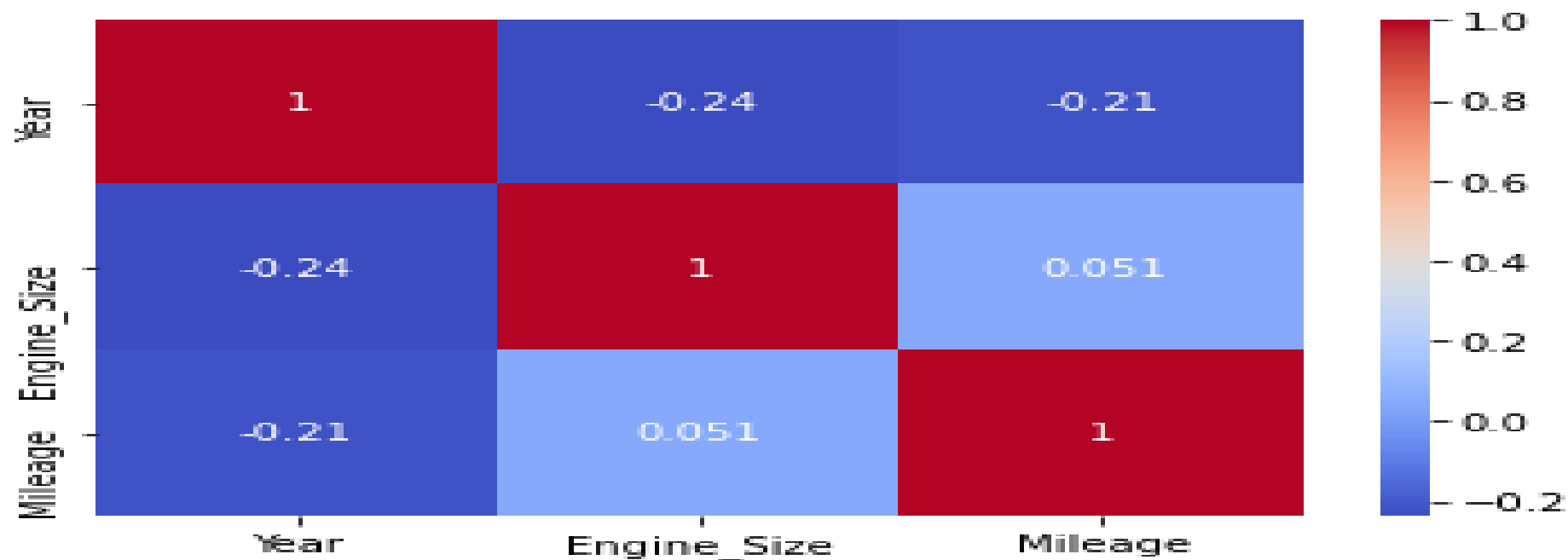
Q2: count car we have by maker ?

Q3: What is the most expensive type of car fuel?

Q4: What is the most expensive gear type ?

Q5: How many car we have by maker?

# Correlation



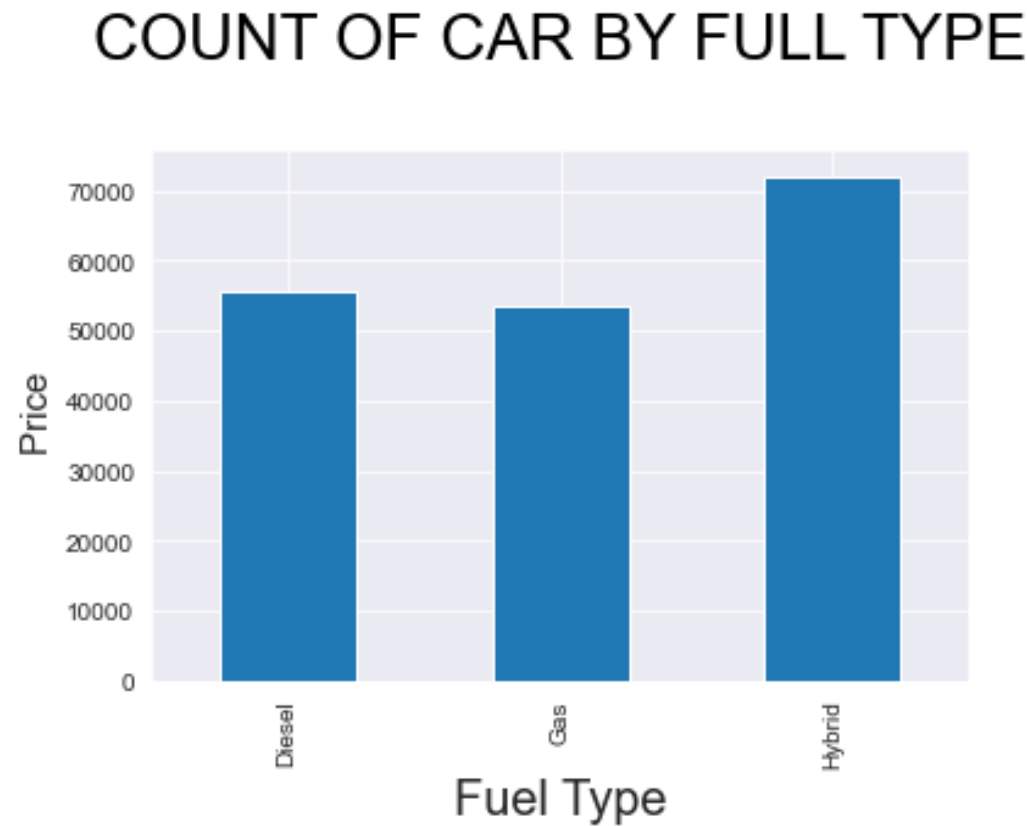
# Import data

```
# Data Processing Library
import pandas as pd
import numpy as np

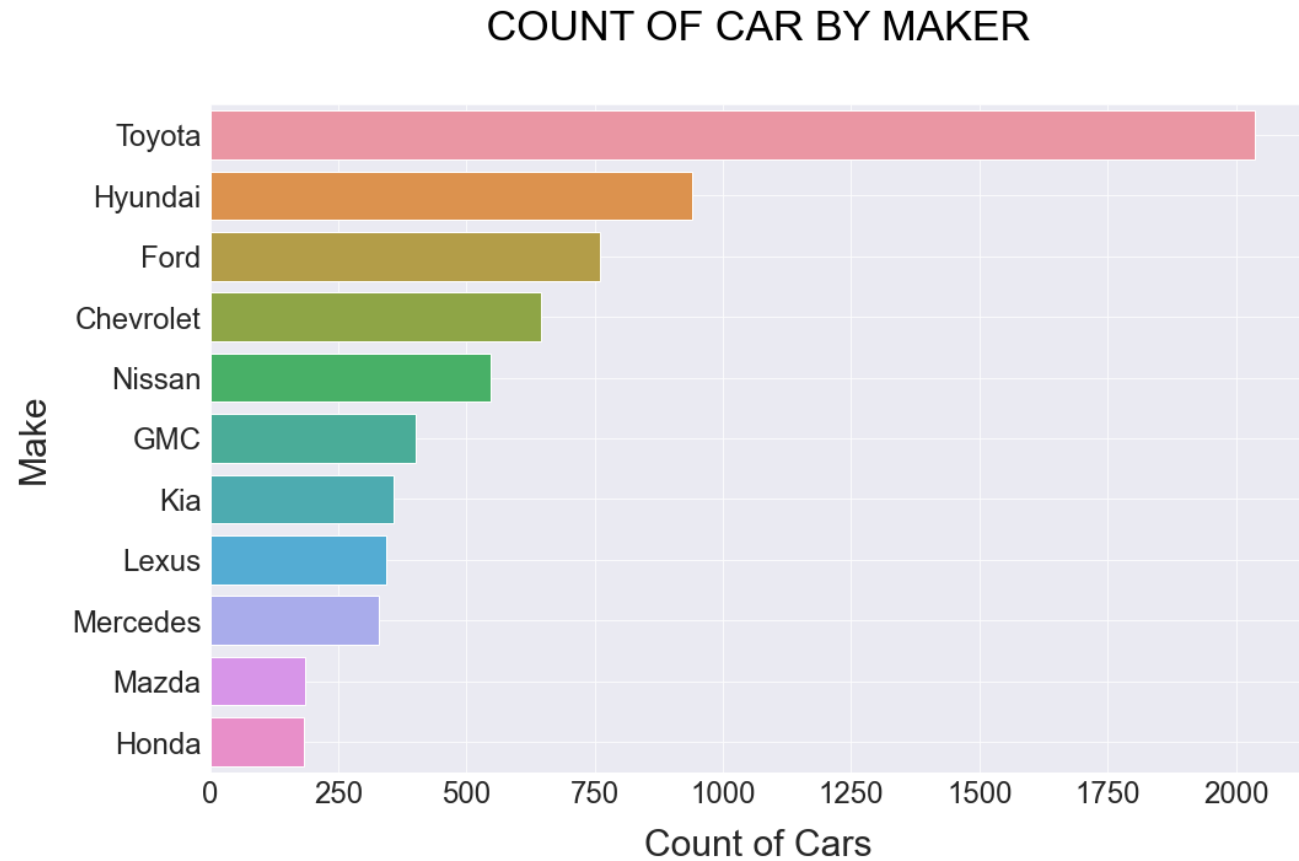
# Visualizations Library
import matplotlib.pyplot as plt
import seaborn as sns

# Modeling Library
from sklearn.linear_model import LinearRegression
from sklearn.model_selection import train_test_split
from sklearn.metrics import r2_score ,mean_squared_error
```

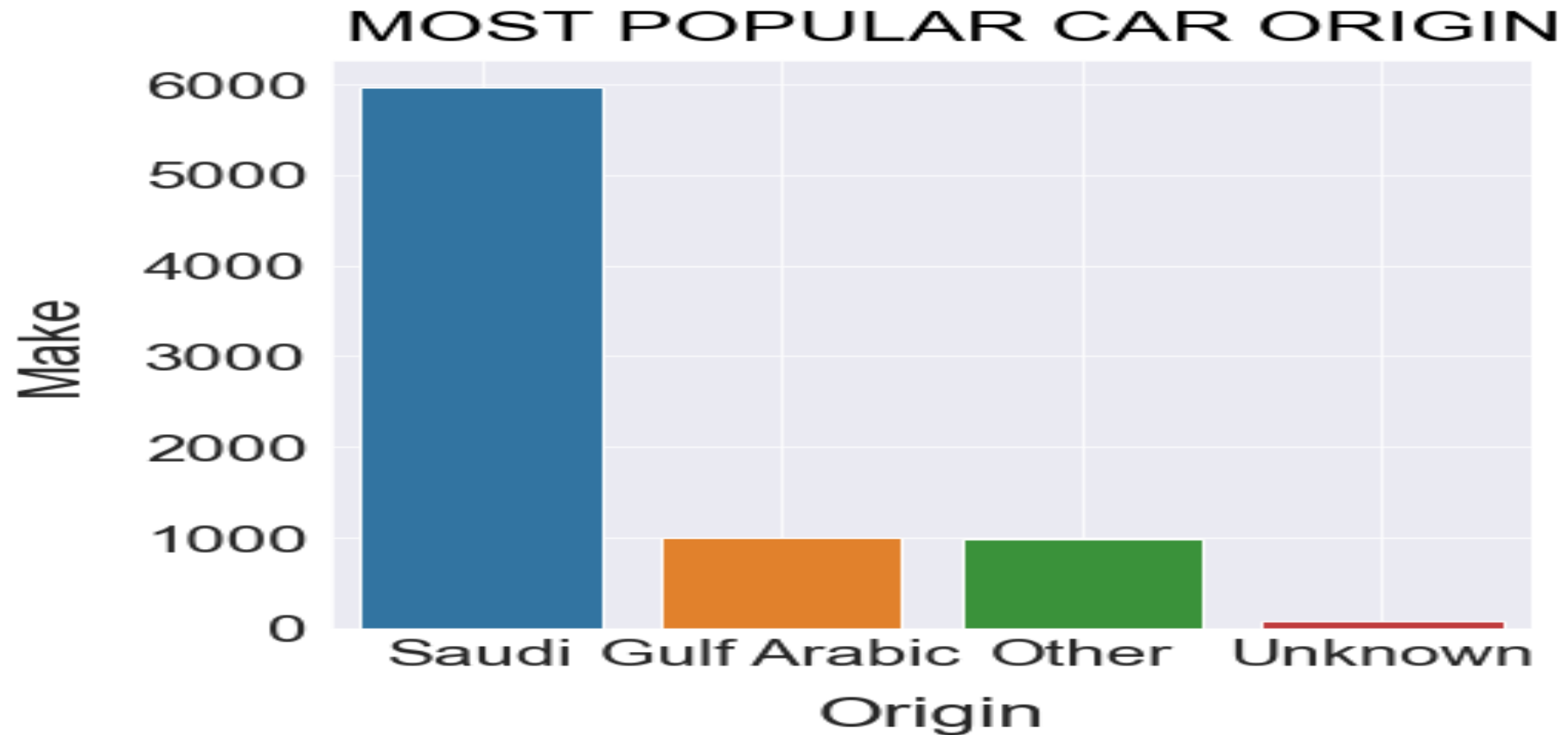
# What is the most expensive type of car fuel?



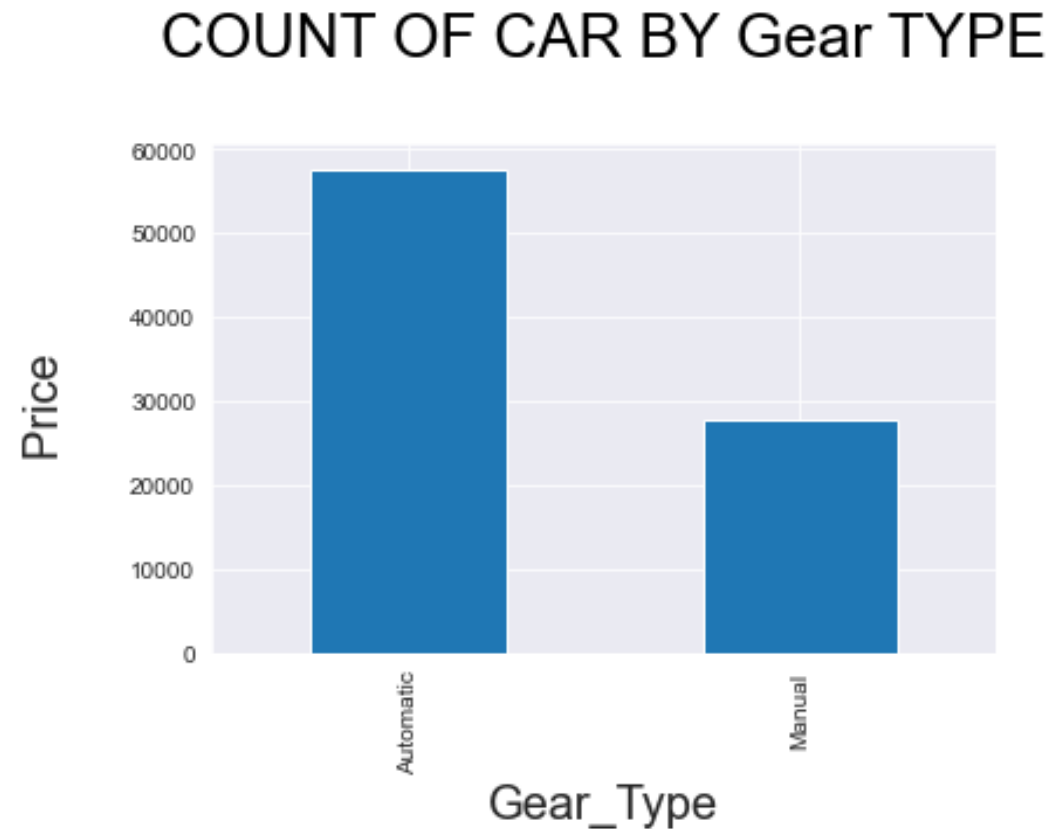
# count car we have by maker ?



# What is the most Popular Origin Car?



# What is the most expensive gear type ?





# DataFrame

	Make	Type	Year	Origin	Color	Options	Engine_Size	Fuel_Type	Gear_Type	Mileage	Region	Price	Negotiable
0	Chrysler	C300	2018	Saudi	Black	Full	5.7	Gas	Automatic	103000	Riyadh	114000	False
1	Nissan	Patrol	2016	Saudi	White	Full	4.8	Gas	Automatic	5448	Riyadh	0	True
2	Nissan	Sunny	2019	Saudi	Silver	Standard	1.5	Gas	Automatic	72418	Riyadh	27500	False
3	Hyundai	Elantra	2019	Saudi	Grey	Standard	1.6	Gas	Automatic	114154	Riyadh	43000	False
4	Hyundai	Elantra	2019	Saudi	Silver	Semi Full	2.0	Gas	Automatic	41912	Riyadh	59500	False
...	...	...	...	...	...	...	...	...	...	...	...	...	...
8030	Audi	A6	2015	Saudi	Silver	Full	3.0	Gas	Automatic	77000	Riyadh	75000	False
8031	Chevrolet	Camaro	2010	Saudi	Silver	Full	3.6	Gas	Automatic	150000	Riyadh	53000	False
8032	Toyota	Land Cruiser	2013	Gulf Arabic	White	Full	4.6	Gas	Automatic	260	Najran	0	True
8033	Nissan	Altima	2011	Saudi	Silver	Full	2.5	Gas	Automatic	18500	Aseer	22000	False
8034	Cadillac	Other	2013	Saudi	White	Full	3.6	Gas	Automatic	256000	Al-Medina	40000	False

# Null VaLUES

```
In [7]: # Check the null values  
car.isnull().sum()
```

```
Out[7]: Make          0  
Type          0  
Year          0  
Origin        0  
Color         0  
Options       0  
Engine_Size   0  
Fuel_Type     0  
Gear_Type     0  
Mileage       0  
Region        0  
Price         0  
Negotiable    0  
dtype: int64
```

# DELETE COLOME

```
In [8]: #delete Rank column  
car.drop('Negotiable', axis=1,inplace=True)  
car
```

Out[8]:

	Make	Type	Year	Origin	Color	Options	Engine_Size	Fuel_Type	Gear_Type	Mileage	Region	Price
0	Chrysler	C300	2018	Saudi	Black	Full	5.7	Gas	Automatic	103000	Riyadh	114000
1	Nissan	Patrol	2016	Saudi	White	Full	4.8	Gas	Automatic	5448	Riyadh	0
2	Nissan	Sunny	2019	Saudi	Silver	Standard	1.5	Gas	Automatic	72418	Riyadh	27500
3	Hyundai	Elantra	2019	Saudi	Grey	Standard	1.6	Gas	Automatic	114154	Riyadh	43000
4	Hyundai	Elantra	2019	Saudi	Silver	Semi Full	2.0	Gas	Automatic	41912	Riyadh	59500
...	...	...	...	...	...	...	...	...	...	...	...	...
8030	Audi	A6	2015	Saudi	Silver	Full	3.0	Gas	Automatic	77000	Riyadh	75000
8031	Chevrolet	Camaro	2010	Saudi	Silver	Full	3.6	Gas	Automatic	150000	Riyadh	53000
8032	Toyota	Land Cruiser	2013	Gulf Arabic	White	Full	4.6	Gas	Automatic	260	Najran	0
8033	Nissan	Altima	2011	Saudi	Silver	Full	2.5	Gas	Automatic	18500	Aseer	22000
8034	Cadillac	Other	2013	Saudi	White	Full	3.6	Gas	Automatic	256000	Al-Medina	40000

8035 rows × 12 columns

# Check duplicate

```
In [9]: ## Check the duplicate  
car.duplicated().sum()
```

# Deletes Duplicate

Out[9]: 3

```
In [10]: c=car.drop_duplicates(inplace=True)
car
```

Out[10]:

	Make	Type	Year	Origin	Color	Options	Engine_Size	Fuel_Type	Gear_Type	Mileage	Region	Price
0	Chrysler	C300	2018	Saudi	Black	Full	5.7	Gas	Automatic	103000	Riyadh	114000
1	Nissan	Patrol	2016	Saudi	White	Full	4.8	Gas	Automatic	5448	Riyadh	0
2	Nissan	Sunny	2019	Saudi	Silver	Standard	1.5	Gas	Automatic	72418	Riyadh	27500
3	Hyundai	Elantra	2019	Saudi	Grey	Standard	1.6	Gas	Automatic	114154	Riyadh	43000
4	Hyundai	Elantra	2019	Saudi	Silver	Semi Full	2.0	Gas	Automatic	41912	Riyadh	59500
...	...	...	...	...	...	...	...	...	...	...	...	...
8030	Audi	A6	2015	Saudi	Silver	Full	3.0	Gas	Automatic	77000	Riyadh	75000
8031	Chevrolet	Camaro	2010	Saudi	Silver	Full	3.6	Gas	Automatic	150000	Riyadh	53000
8032	Toyota	Land Cruiser	2013	Gulf Arabic	White	Full	4.6	Gas	Automatic	260	Najran	0
8033	Nissan	Altima	2011	Saudi	Silver	Full	2.5	Gas	Automatic	18500	Aseer	22000
8034	Cadillac	Other	2013	Saudi	White	Full	3.6	Gas	Automatic	256000	Al-Medina	40000