EDS PROJECT Activity

Team Members: 1) Madake Gahinath (638)

2) Riyash kamala (626)

3) Ashwin kale (625)

4) Chaitanya Chavan (624)

Guided by: Prof. Madhavi Nimkar

Subject: Essential of Data science

Division: F
Batch: F2

Dataset: Eds Python.csv

	name	year	selling_price	km_driven	fuel	seller_type	transmission	owner
0	Maruti 800 AC	2007	60000	70000	Petrol	Individual	Manual	First Owner
1	Maruti Wagon R LXI Minor	2007	135000	50000	Petrol	Individual	Manual	First Owner
2	Hyundai Verna 1.6 SX	2012	600000	100000	Diesel	Individual	Manual	First Owner
3	Datsun RediGO T Option	2017	250000	46000	Petrol	Individual	Manual	First Owner
4	Honda Amaze VX i-DTEC	2014	450000	141000	Diesel	Individual	Manual	Second Owner
5	Maruti Alto LX BSIII	2007	140000	125000	Petrol	Individual	Manual	First Owner
6	Hyundai Xcent 1.2 Kappa S	2016	550000	25000	Petrol	Individual	Manual	First Owner
7	Tata Indigo Grand Petrol	2014	240000	60000	Petrol	Individual	Manual	Second Owner
8	Hyundai Creta 1.6 VTVT S	2015	850000	25000	Petrol	Individual	Manual	First Owner
9	Maruti Celerio Green VXI	2017	365000	78000	CNG	Individual	Manual	First Owner
10	Chevrolet Sail 1.2 Base	2015	260000	35000	Petrol	Individual	Manual	First Owner
11	Tata Indigo Grand Petrol	2014	250000	100000	Petrol	Individual	Manual	First Owner
12	Toyota Corolla Altis 1.8 VL CVT	2018	1650000	25000	Petrol	Dealer	Automatic	First Owner
13	Maruti 800 AC	2007	60000	70000	Petrol	Individual	Manual	First Owner
14	Maruti Wagon R LXI Minor	2007	135000	50000	Petrol	Individual	Manual	First Owner
15	Hyundai Verna 1.6 SX	2012	600000	100000	Diesel	Individual	Manual	First Owner
16	Datsun RediGO T Option	2017	250000	46000	Petrol	Individual	Manual	First Owner
17	Honda Amaze VX i-DTEC	2014	450000	141000	Diesel	Individual	Manual	Second Owner
18	Maruti Alto LX BSIII	2007	140000	125000	Petrol	Individual	Manual	First Owner
19	Hyundai Xcent 1.2 Kappa S	2016	550000	25000	Petrol	Individual	Manual	First Owner
20	Tata Indigo Grand Petrol	2014	240000	60000	Petrol	Individual	Manual	Second Owner
21	Hyundai Creta 1.6 VTVT S	2015	850000	25000	Petrol	Individual	Manual	First Owner
22	Maruti Celerio Green VXI	2017	365000	78000	CNG	Individual	Manual	First Owner
23	Chevrolet Sail 1.2 Base	2015	260000	35000	Petrol	Individual	Manual	First Owner
24	Tata Indigo Grand Petrol	2014	250000	100000	Petrol	Individual	Manual	First Owner
25	Toyota Corolla Altis 1.8 VL CVT	2018	1650000	25000	Petrol	Dealer	Automatic	First Owner
26	Maruti Ciaz VXi Plus	2015	585000	24000	Petrol	Individual	Manual	First Owner
27	Hyundai Venue SX Opt Diesel	2019	1195000	5000	Diesel	Individual	Manual	First Owner
28	Chevrolet Enjoy TCDi LTZ 7 Seater	2013	390000	33000	Diesel	Individual	Manual	First Owner

19	Individual	Manual	First Owner
20	Individual	Manual	Second Owner
21	Individual	Manual	First Owner
22	Individual	Manual	First Owner
23	Individual	Manual	First Owner
24	Individual	Manual	First Owner
25	Dealer	Automatic	First Owner
26	Dealer	Manual	First Owner
27	Dealer	Manual	First Owner
28	Individual	Manual	Second Owner

Code:

```
import pandas as pd

df=pd.read_csv("Eds Python.csv")

print(df)
```

output:

	name	year	selling_price	km_driven	fuel
0	Maruti 800 AC	2007	60000	70000	Petrol
1	Maruti Wagon R LXI Minor	2007	135000	50000	Petrol
2	Hyundai Verna 1.6 SX	2012	600000	100000	Diesel
3	Datsun RediGO T Option	2017	250000	46000	Petrol
4	Honda Amaze VX i-DTEC	2014	450000	141000	Diesel
5	Maruti Alto LX BSIII	2007	140000	125000	Petrol
6	Hyundai Xcent 1.2 Kappa S	2016	550000	25000	Petrol
7	Tata Indigo Grand Petrol	2014	240000	60000	Petrol
8	Hyundai Creta 1.6 VTVT S	2015	850000	25000	Petrol
9	Maruti Celerio Green VXI	2017	365000	78000	CNG
10	Chevrolet Sail 1.2 Base	2015	260000	35000	Petrol
11	Tata Indigo Grand Petrol	2014	250000	100000	Petrol
12	Toyota Corolla Altis 1.8 VL CVT	2018	1650000	25000	Petrol
13	Maruti 800 AC	2007	60000	70000	Petrol
14	Maruti Wagon R LXI Minor	2007	135000	50000	Petrol
15	Hyundai Verna 1.6 SX	2012	600000	100000	Diesel
16	Datsun RediGO T Option	2017	250000	46000	Petrol
17	Honda Amaze VX i-DTEC	2014	450000	141000	Diesel
18	Maruti Alto LX BSIII	2007	140000	125000	Petrol
19	Hyundai Xcent 1.2 Kappa S	2016	550000	25000	Petrol

20	Tata Indigo Grand Petrol	2014	240000	60000	Petrol
21	Hyundai Creta 1.6 VTVT S	2015	850000	25000	Petrol
22	Maruti Celerio Green VXI	2017	365000	78000	CNG
23	Chevrolet Sail 1.2 Base	2015	260000	35000	Petrol
24	Tata Indigo Grand Petrol	2014	250000	100000	Petrol
25	Toyota Corolla Altis 1.8 VL CVT	2018	1650000	25000	Petrol
26	Maruti Ciaz VXi Plus	2015	585000	24000	Petrol
27	Hyundai Venue SX Opt Diesel	2019	1195000	5000	Diesel
28	Chevrolet Enjoy TCDi LTZ 7 Seater	2013	390000	33000	Diesel

	seller_type	transmission	owner
0	Individual	Manual	First Owner
1	Individual	Manual	First Owner
2	Individual	Manual	First Owner
3	Individual	Manual	First Owner
4	Individual	Manual	Second Owner
5	Individual	Manual	First Owner
6	Individual	Manual	First Owner
7	Individual	Manual	Second Owner
8	Individual	Manual	First Owner
9	Individual	Manual	First Owner
10	Individual	Manual	First Owner
11	Individual	Manual	First Owner
12	Dealer	Automatic	First Owner
13	Individual	Manual	First Owner
14	Individual	Manual	First Owner
15	Individual	Manual	First Owner
16	Individual	Manual	First Owner
17	Individual	Manual	Second Owner
18	Individual	Manual	First Owner
19	Individual	Manual	First Owner
20	Individual	Manual	Second Owner
21	Individual	Manual	First Owner
22	Individual	Manual	First Owner
23	Individual	Manual	First Owner
24	Individual	Manual	First Owner
25	Dealer	Automatic	First Owner
26	Dealer	Manual	First Owner
27	Dealer	Manual	First Owner
28	Individual	Manual	Second Owner

1) Which was the best year for sales? How much was earned that year?

```
import pandas as pd

df=pd.read_csv("Eds Python.csv")

bcs=df.groupby("year")["selling_price"].sum().idxmax()

bcsal=df.groupby("year")["selling_price"].sum().max()

print("The best year of the Sales is",bcs,"Total sales amount is",bcsal)
```

output:

```
The best year of the Sales is 2018 Total sales amount is 3300000
```

2) Which was the least year for sales? How much was earned that year?

```
import pandas as pd

df=pd.read_csv("Eds Python.csv")

bcs=df.groupby("year")["selling_price"].sum().idxmin()

bcsal=df.groupby("year")["selling_price"].sum().min()

print("The least year of the Sales is",bcs,"Total sales amount is",bcsal)
```

Output:

The least year of the Sales is 2013 Total sales amount is 390000

3) Which product sold the most?

```
mps=df.groupby("name")["selling_price"].sum().idxmax()
print(mps)
```

Output :Toyota Corolla Altis 1.8 VL CVT

4) Name of Cars sold in 2007.

Input :

```
import pandas as pd
df=pd.read_csv("Eds Python.csv")
print(df[df['year']==2007])
```

Output :

```
                  name  year  selling_price  km_driven    fuel  \
0            Maruti 800 AC  2007         60000      70000  Petrol
1   Maruti Wagon R LXI Minor  2007        135000      50000  Petrol
5      Maruti Alto LX BSIII  2007        140000     125000  Petrol
13           Maruti 800 AC  2007         60000      70000  Petrol
14  Maruti Wagon R LXI Minor  2007        135000      50000  Petrol
18     Maruti Alto LX BSIII  2007        140000     125000  Petrol

   seller_type transmission        owner
0   Individual       Manual  First Owner
1   Individual       Manual  First Owner
5   Individual       Manual  First Owner
13  Individual       Manual  First Owner
14  Individual       Manual  First Owner
18  Individual       Manual  First Owner
```

5) Find the second owner data.

```
import pandas as pd
df=pd.read_csv("Eds Python.csv")
print(df[df['owner']=='Second Owner'])
```

Output :

	name	year	selling_price	km_driven	fuel	seller_type	transmission	owner
4	Honda Amaze VX i-DTEC	2014	450000	141000	Diesel	Individual	Manual	Second Owner
7	Tata Indigo Grand Petrol	2014	240000	60000	Petrol	Individual	Manual	Second Owner
17	Honda Amaze VX i-DTEC	2014	450000	141000	Diesel	Individual	Manual	Second Owner
20	Tata Indigo Grand Petrol	2014	240000	60000	Petrol	Individual	Manual	Second Owner
28	Chevrolet Enjoy TCDi LTZ 7 Seater	2013	390000	33000	Diesel	Individual	Manual	Second Owner

6) Find the car which are sold in 2007 and car is Maruti Wagon R LXI Minor.

Input :

```
import pandas as pd
df=pd.read_csv("Eds Python.csv")
print(df[(df['name']=='Maruti Wagon R LXI Minor') & (df['year']==2007)])
```

output :

```
                  name  year  selling_price  km_driven    fuel  \
1   Maruti Wagon R LXI Minor  2007         135000      50000  Petrol
14  Maruti Wagon R LXI Minor  2007         135000      50000  Petrol

   seller_type transmission        owner
1   Individual       Manual  First Owner
14  Individual       Manual  First Owner
```

7) Find car of the type of Diesel.

Input :

```
import pandas as pd
df=pd.read_csv("Eds Python.csv")
print(df[(df['fuel']=='Diesel')])
```

Output :

```
                       name  year  selling_price  km_driven    fuel  \
2              Hyundai Verna 1.6 SX  2012         600000     100000  Diesel
4             Honda Amaze VX i-DTEC  2014         450000     141000  Diesel
15             Hyundai Verna 1.6 SX  2012         600000     100000  Diesel
```

17 Honda Amaze VX i-DTEC 2014 450000 141000 Diesel

27 Hyundai Venue SX Opt Diesel 2019 1195000 5000 Diesel

28 Chevrolet Enjoy TCDi LTZ 7 Seater 2013 390000 33000 Diesel

seller_type transmission owner

2 Individual Manual First Owner

4 Individual Manual Second Owner

15 Individual Manual First Owner

17 Individual Manual Second Owner

27 Dealer Manual First Owner

28 Individual Manual Second Owner

8) Car which driven 100000 km.

```
import pandas as pd
df=pd.read_csv("Eds Python.csv")
print(df[(df['km_driven']==100000)])
```

Output :

```
                 name  year  selling_price  km_driven    fuel  \
2      Hyundai Verna 1.6 SX  2012         600000     100000  Diesel
11  Tata Indigo Grand Petrol  2014         250000     100000  Petrol
15     Hyundai Verna 1.6 SX  2012         600000     100000  Diesel
```

24 Tata Indigo Grand Petrol 2014 250000 100000 Petrol

	seller_type	transmission	owner
2	Individual	Manual	First Owner
11	Individual	Manual	First Owner
15	Individual	Manual	First Owner
24	Individual	Manual	First Owner

9) Total sales price of Chevrolet Sail 1.2 Base is.

```
import pandas as pd
df=pd.read_csv("Eds Python.csv")
r1=df.groupby('name')['selling_price'].get_group('Chevrolet Sail 1.2 Base').max()
print('Total sales Chevrolet Sail 1.2 Base:',r1)
```

Output:

Total sales Chevrolet Sail 1.2 Base: 260000

10) Find the car with transmission type is Automatic.

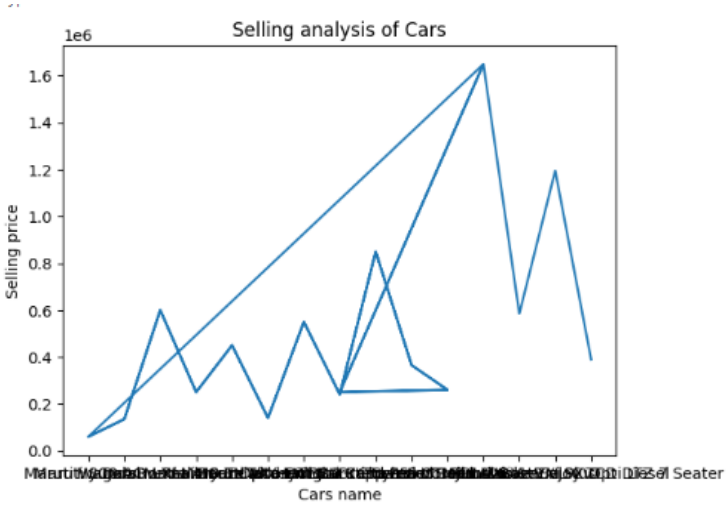
```
import pandas as pd
df=pd.read_csv("Eds Python.csv")
print(df[df['transmission']=='Automatic'])
```

Output :

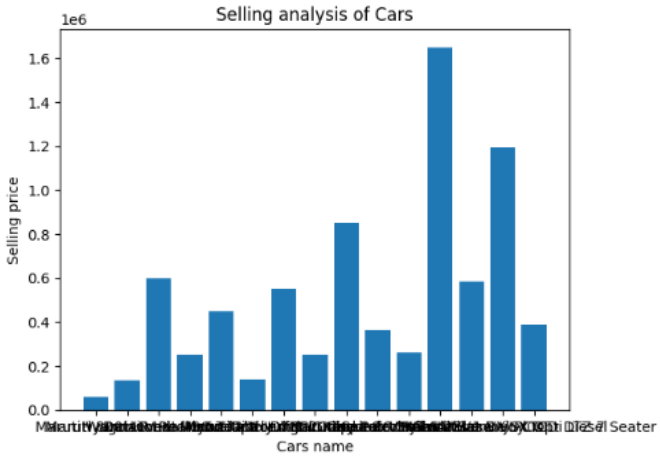
	name	year	selling_price	km_driven	fuel	\
12	Toyota Corolla Altis 1.8 VL CVT	2018	1650000	25000	Petrol	
25	Toyota Corolla Altis 1.8 VL CVT	2018	1650000	25000	Petrol	

	seller_type	transmission	owner
12	Dealer	Automatic	First Owner
25	Dealer	Automatic	First Owner

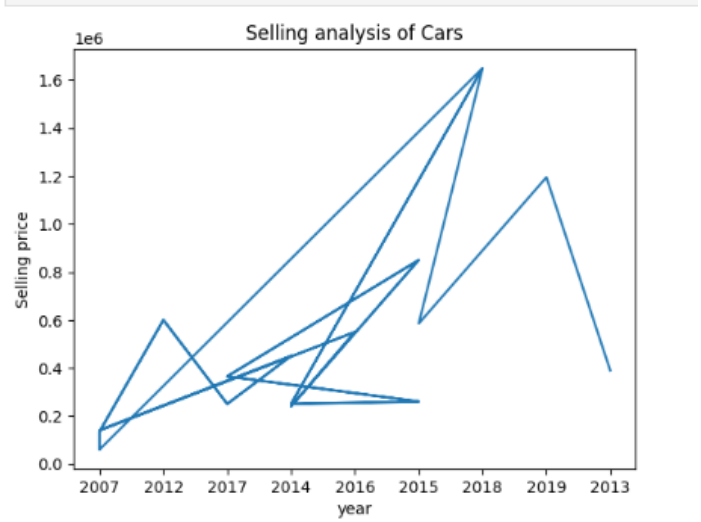
11) Selling analysis of Cars by using plot



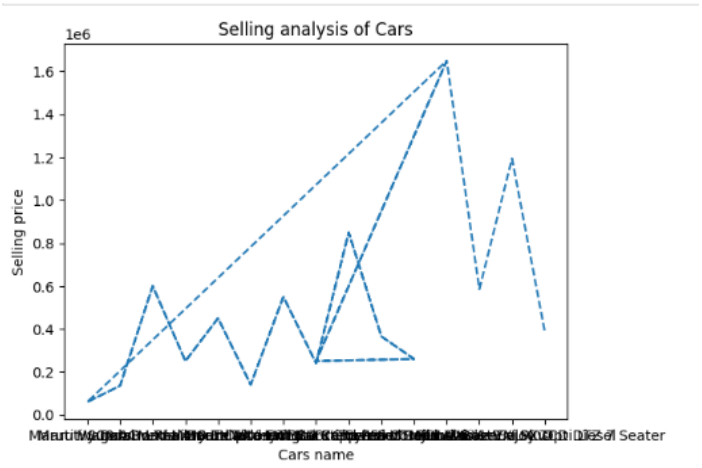
12) Selling analysis of Cars by using bar



13) Selling analysis of Cars by using plot by years



14) Selling analysis of Cars by using plot and landstyle type is dashed



15) Selling analysis of Cars by using plot by years with bar chart