EDS LAB ASSIGNMENT 5: -

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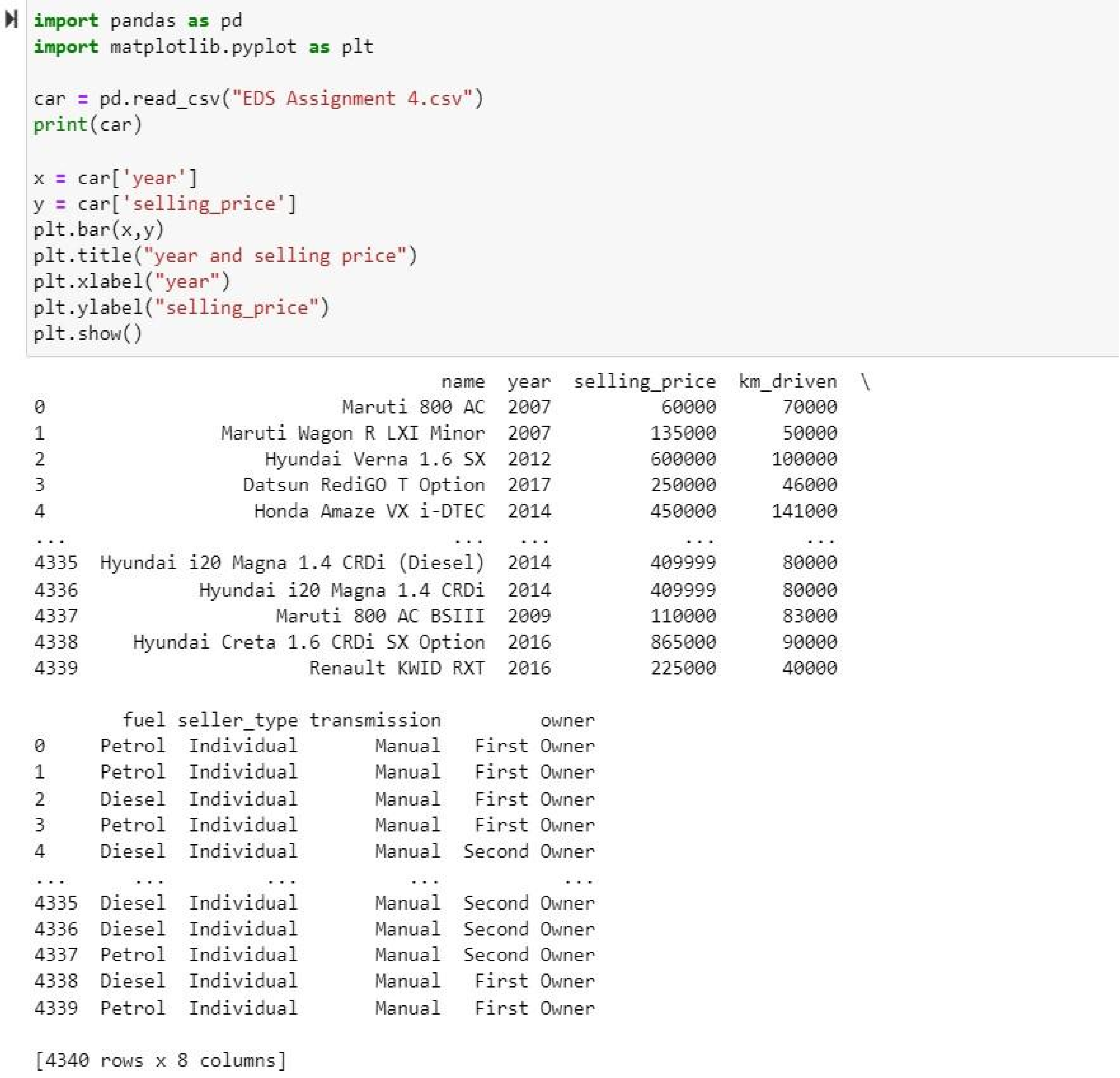
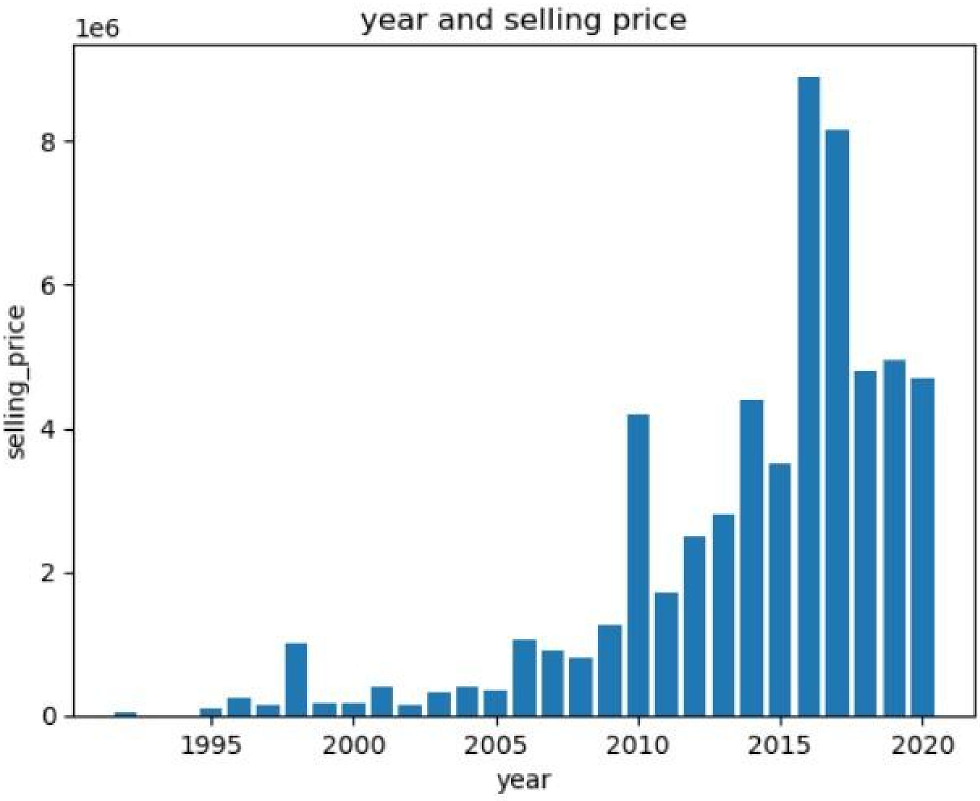
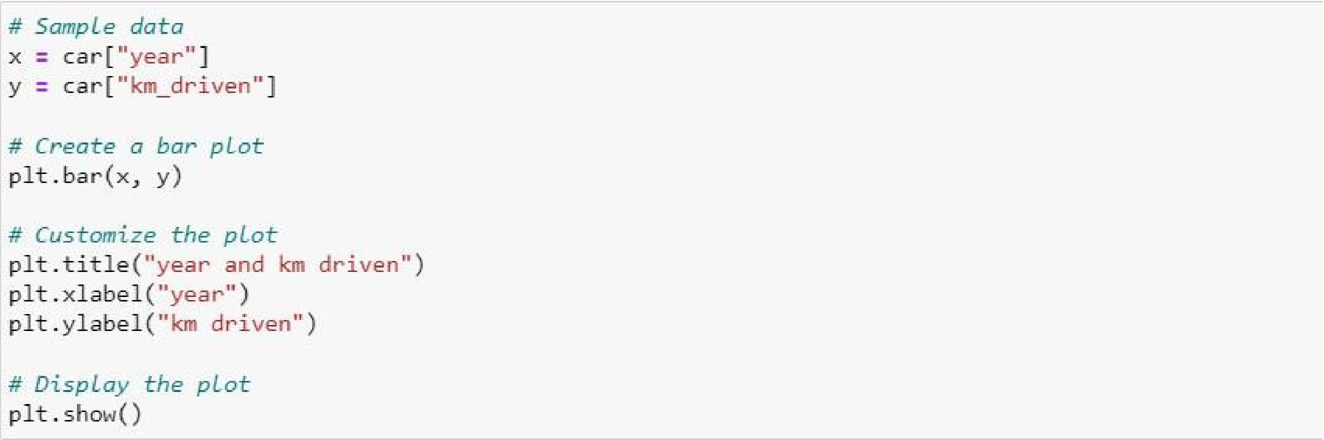
Code & Output :-



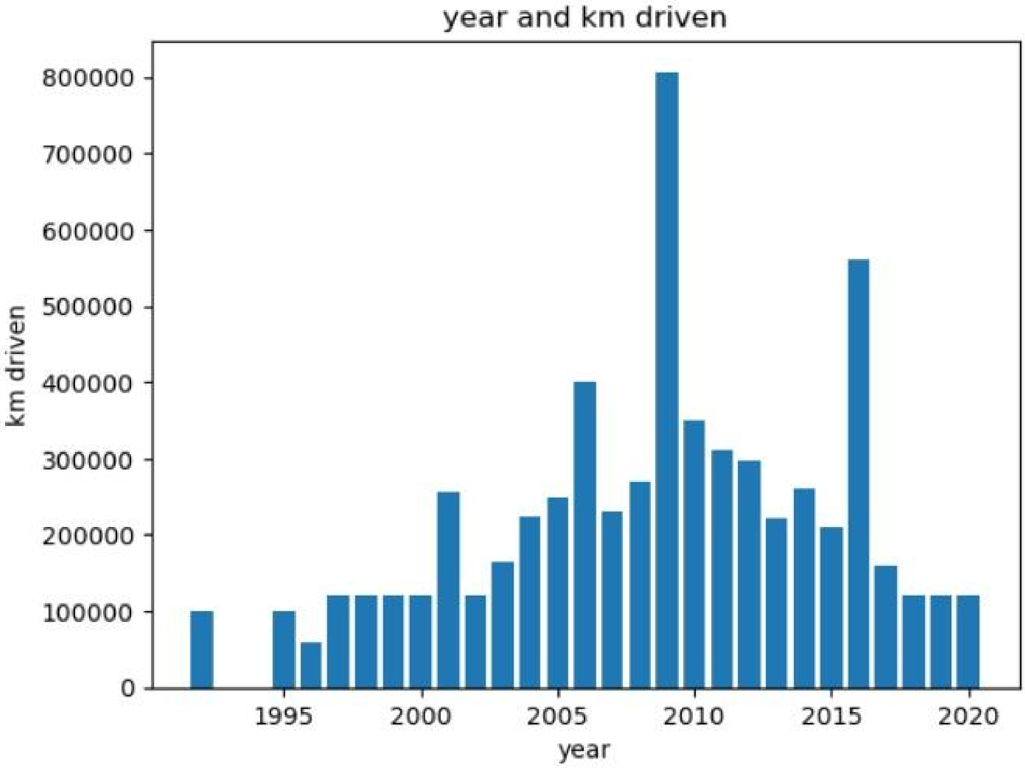
```python
import pandas as pd
import matplotlib.pyplot as plt

car = pd.read_csv("EDS Assignment 4.csv")
print(car)

x = car['year']
y = car['selling_price']
plt.bar(x,y)
plt.title("year and selling price")
plt.xlabel("year")
plt.ylabel("selling_price")
plt.show()
```

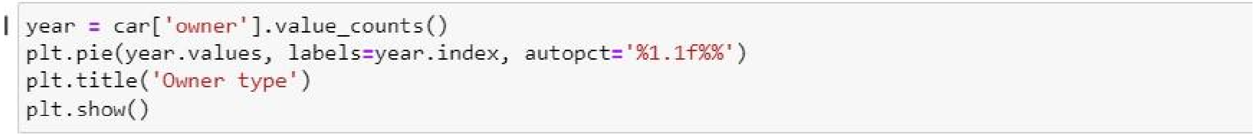
```
                               name  year  selling_price  km_driven  \
0                     Maruti 800 AC  2007          60000      70000   
1          Maruti Wagon R LXI Minor  2007         135000      50000   
2              Hyundai Verna 1.6 SX  2012         600000     100000   
3            Datsun RediGO T Option  2017         250000      46000   
4             Honda Amaze VX i-DTEC  2014         450000     141000   
...                             ...   ...            ...        ...   
4335  Hyundai i20 Magna 1.4 CRDi (Diesel)  2014     409999      80000   
4336           Hyundai i20 Magna 1.4 CRDi  2014     409999      80000   
4337                 Maruti 800 AC BSIII  2009     110000      83000   
4338     Hyundai Creta 1.6 CRDi SX Option  2016     865000      90000   
4339                    Renault KWID RXT  2016     225000      40000   

        fuel seller_type transmission         owner  
0     Petrol  Individual       Manual   First Owner  
1     Petrol  Individual       Manual   First Owner  
2     Diesel  Individual       Manual   First Owner  
3     Petrol  Individual       Manual   First Owner  
4     Diesel  Individual       Manual  Second Owner  
...      ...         ...          ...           ...  
4335  Diesel  Individual       Manual  Second Owner  
4336  Diesel  Individual       Manual  Second Owner  
4337  Petrol  Individual       Manual  Second Owner  
4338  Diesel  Individual       Manual   First Owner  
4339  Petrol  Individual       Manual   First Owner  

[4340 rows x 8 columns]
```


year and selling price
1e6
8
6
4
2
0
selling_price
1995
2000
2005
2010
2015
2020
year

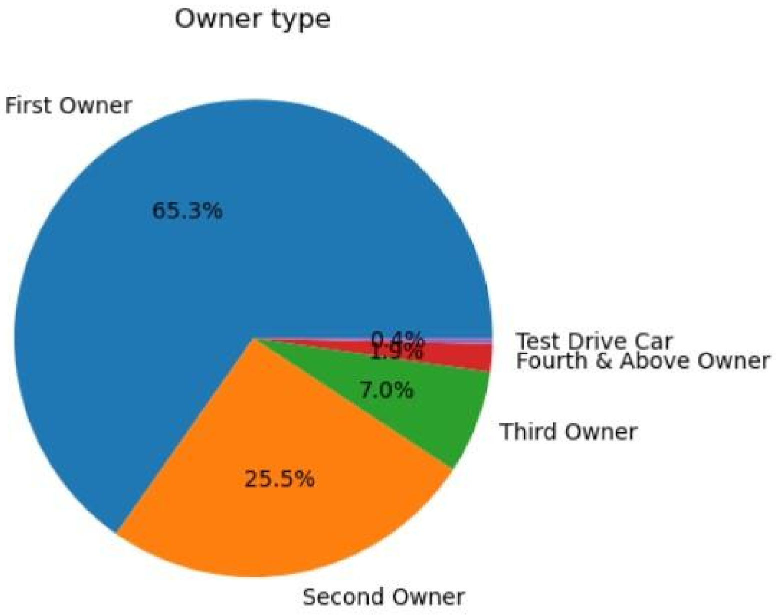


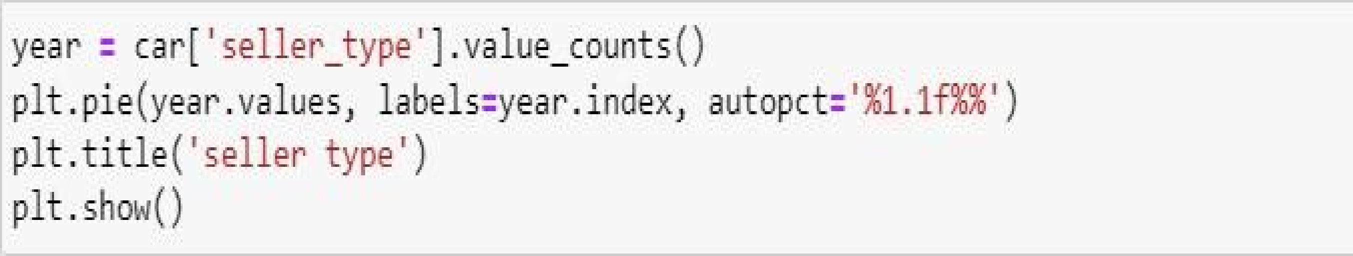
```
# Sample data
x = car["year"]
y = car["km_driven"]

# Create a bar plot
plt.bar(x, y)

# Customize the plot
plt.title("year and km driven")
plt.xlabel("year")
plt.ylabel("km driven")

# Display the plot
plt.show()
```



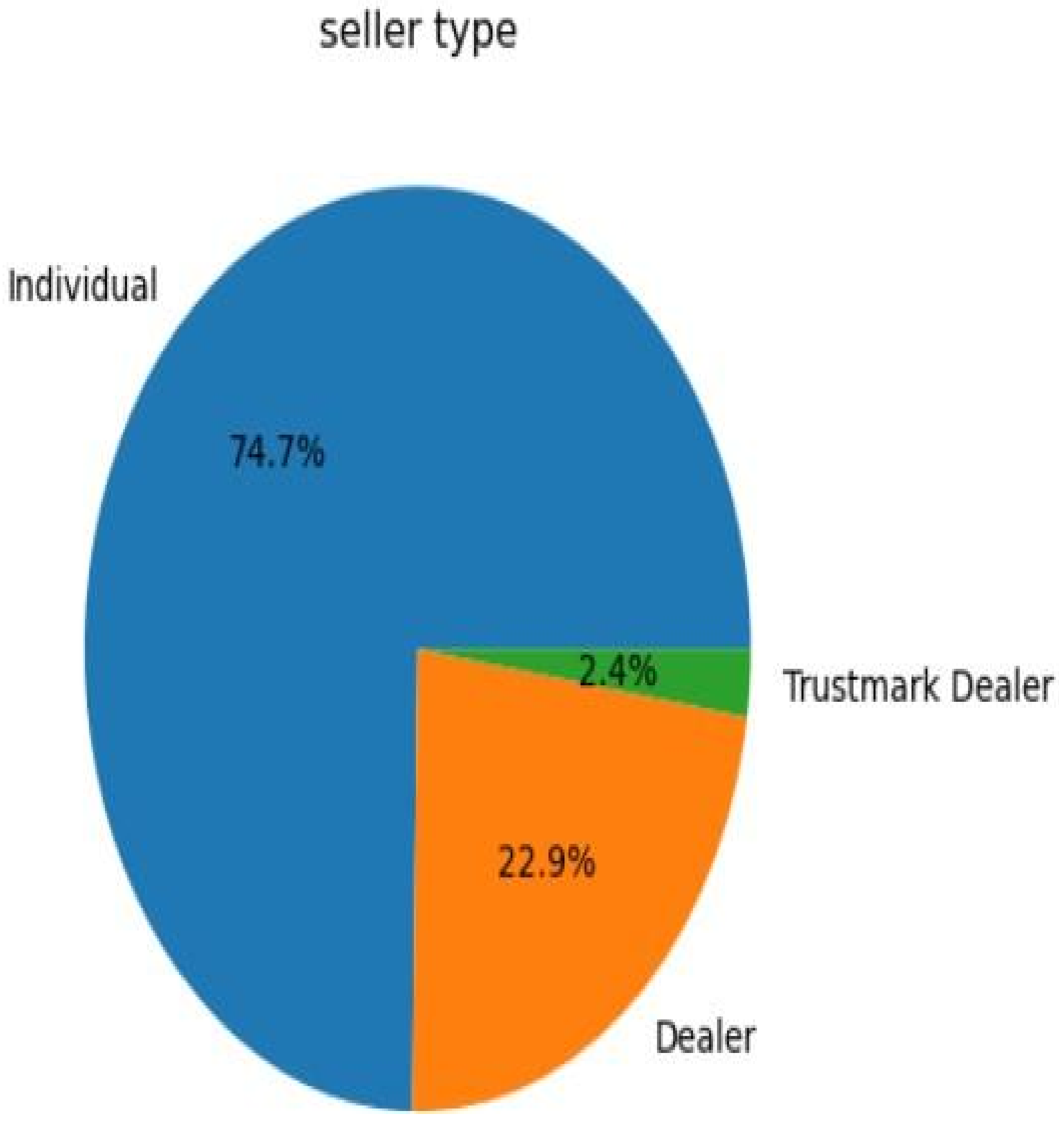


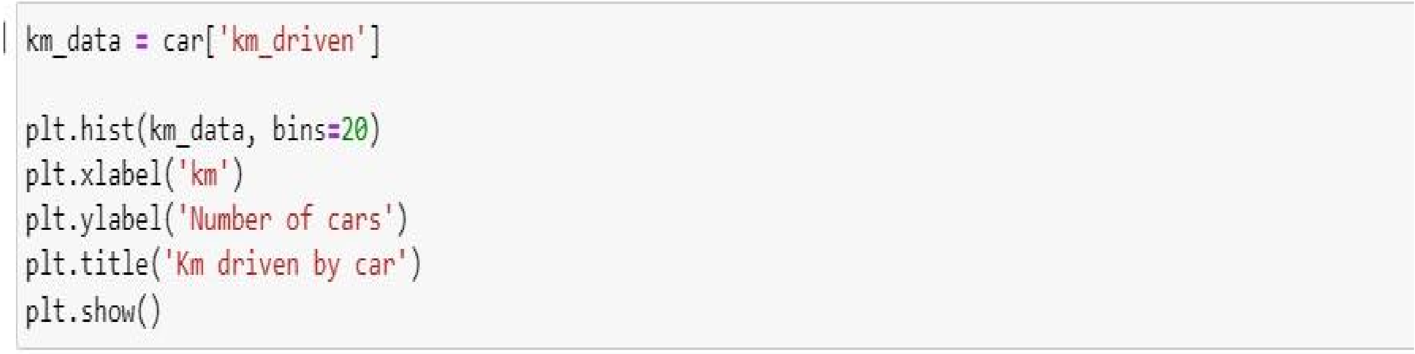
```
year = car['owner'].value_counts()
plt.pie(year.values, labels=year.index, autopct='%1.1f%%')
plt.title('Owner type')
plt.show()
```



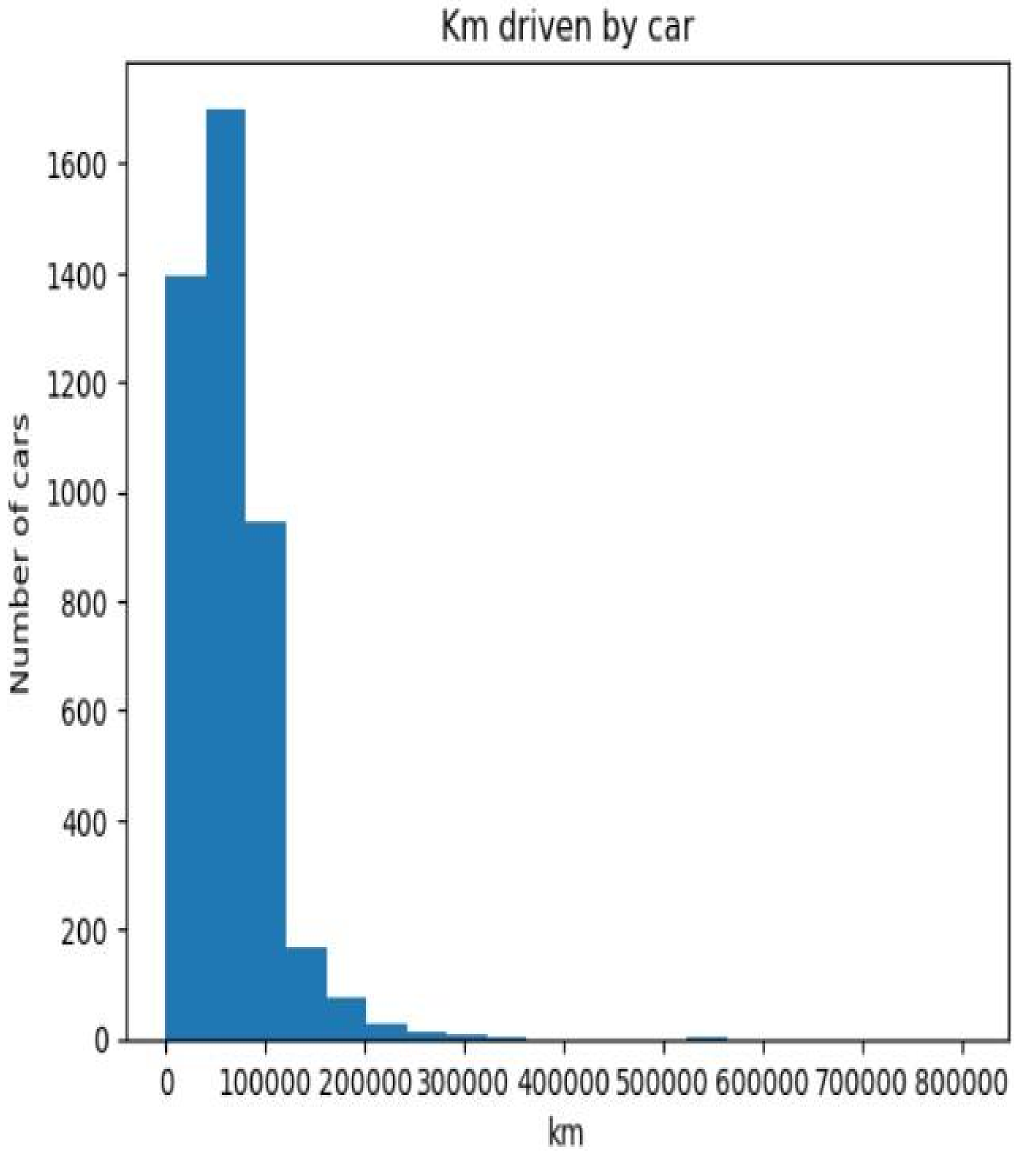


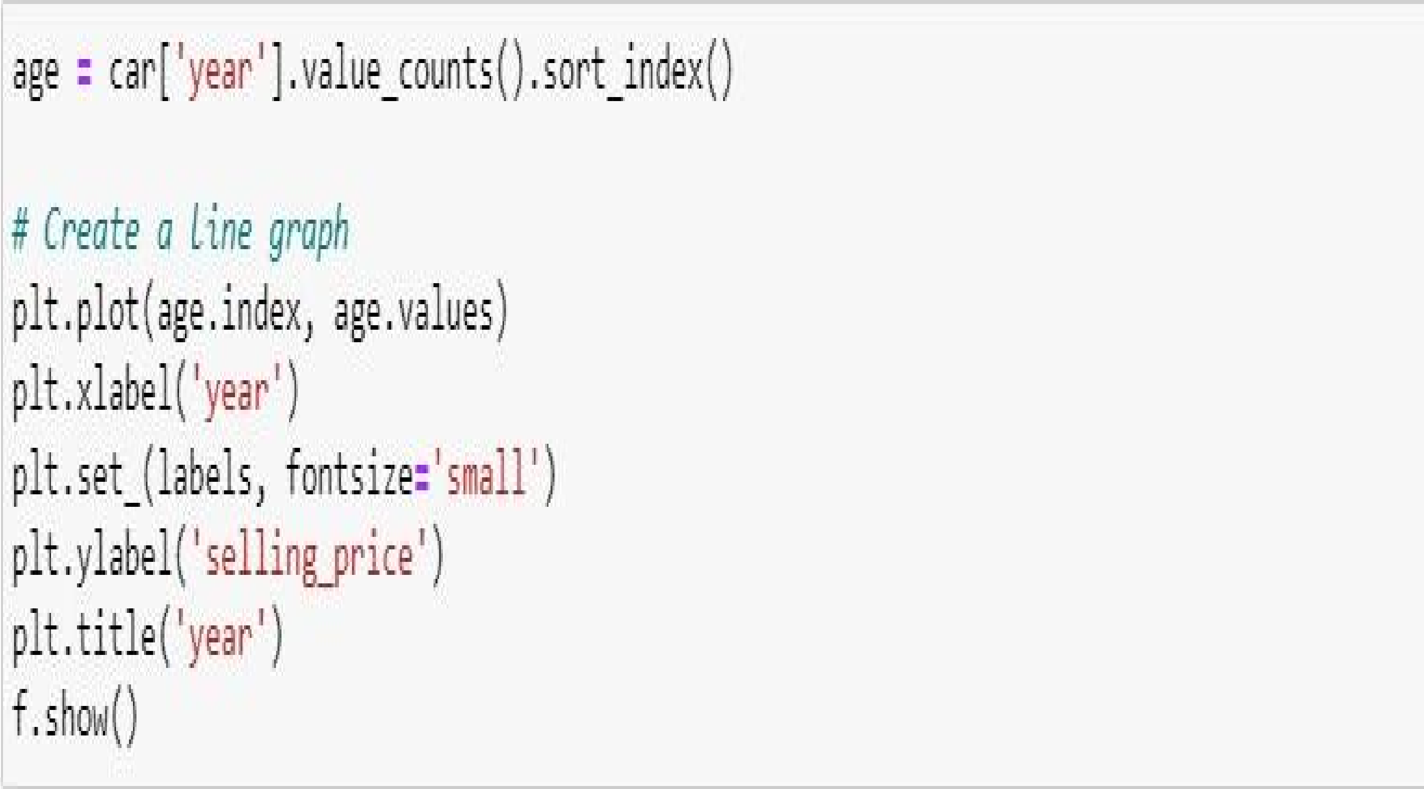
```
year = car['seller_type'].value_counts()
plt.pie(year.values, labels=year.index, autopct='%1.1f%%')
plt.title('seller type')
plt.show()
```



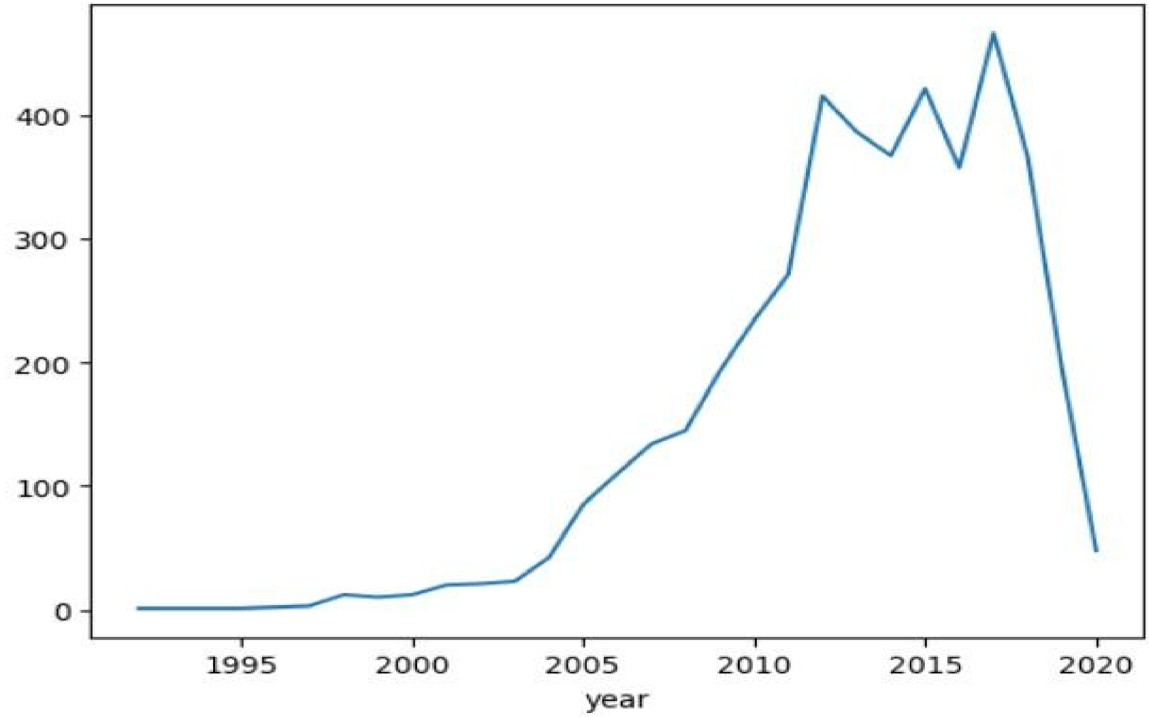


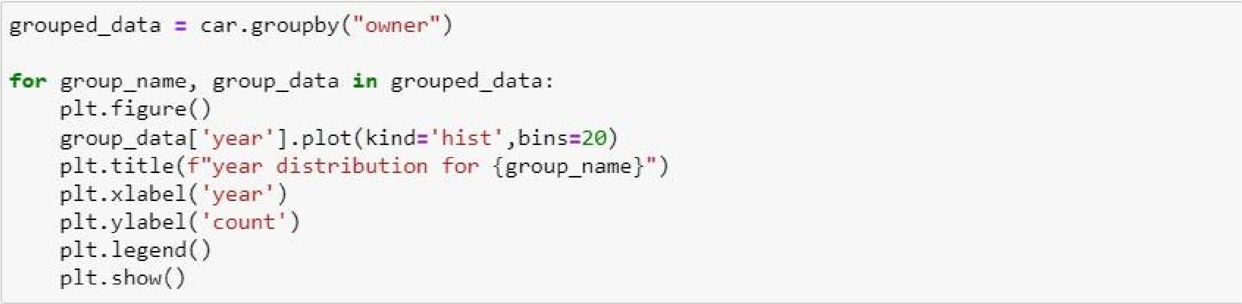
```
km_data = car['km_driven']

plt.hist(km_data, bins=20)
plt.xlabel('km')
plt.ylabel('Number of cars')
plt.title('Km driven by car')
plt.show()
```



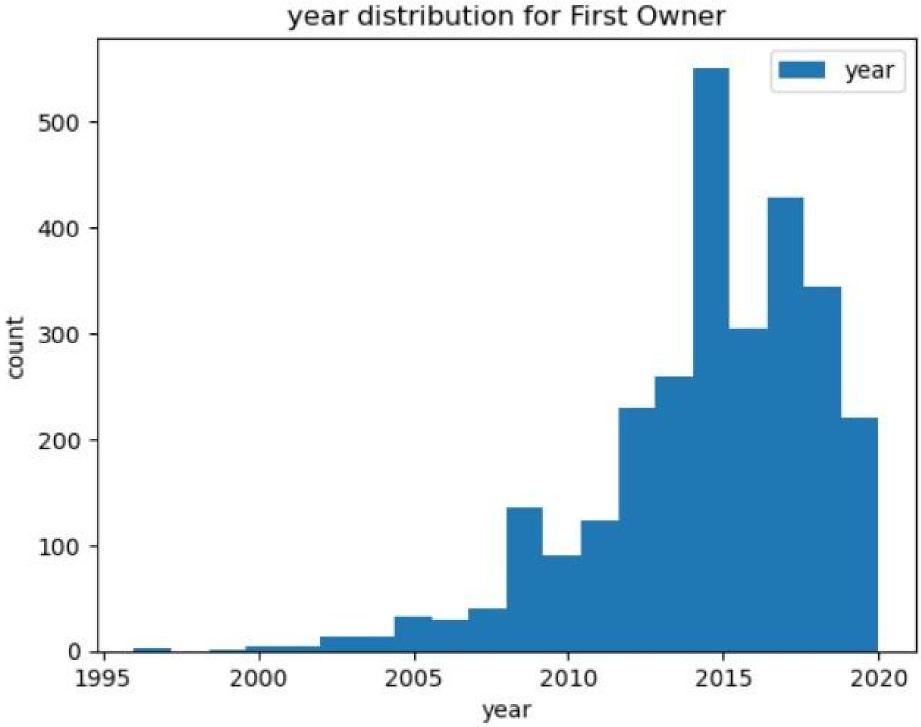


```
age = car['year'].value_counts().sort_index()


# Create a line graph
plt.plot(age.index, age.values)
plt.xlabel('year')
plt.set_(labels, fontsize='small')
plt.ylabel('selling_price')
plt.title('year')
f.show()
```

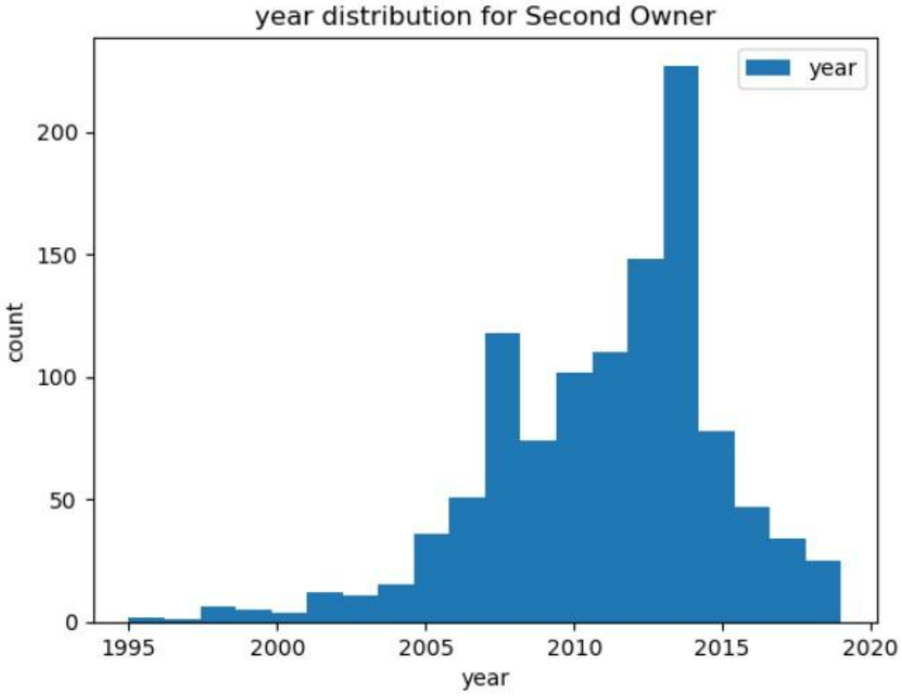




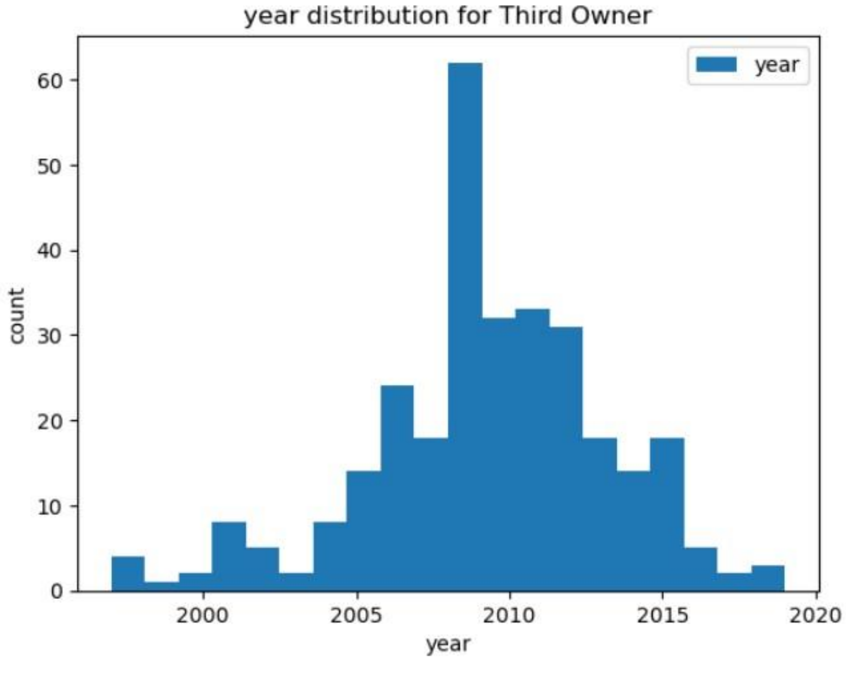
```
grouped_data = car.groupby("owner")

for group_name, group_data in grouped_data:
    plt.figure()
    group_data['year'].plot(kind='hist',bins=20)
    plt.title(f"year distribution for {group_name}")
    plt.xlabel('year')
    plt.ylabel('count')
    plt.legend()
    plt.show()
```



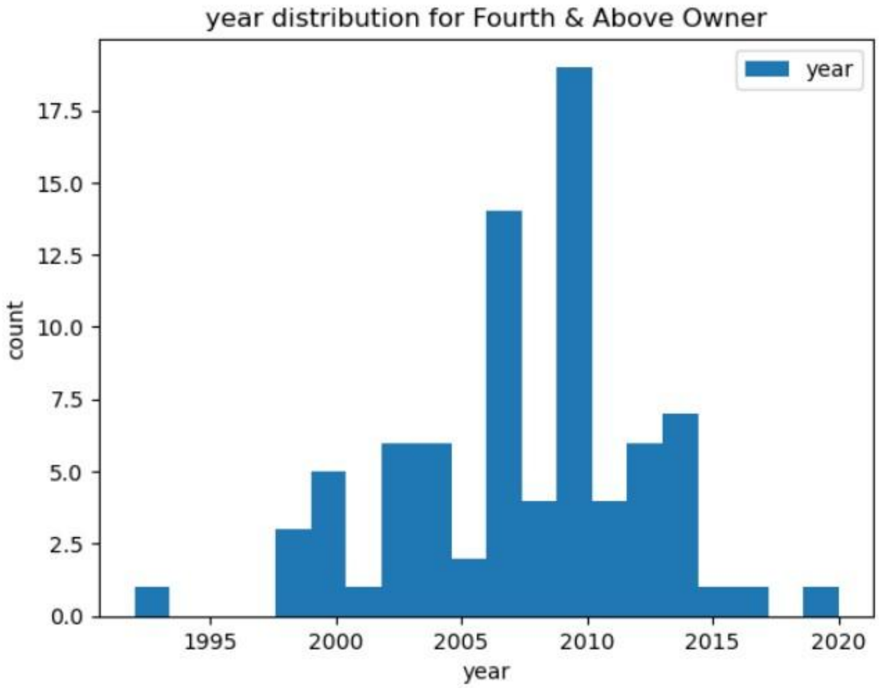
year

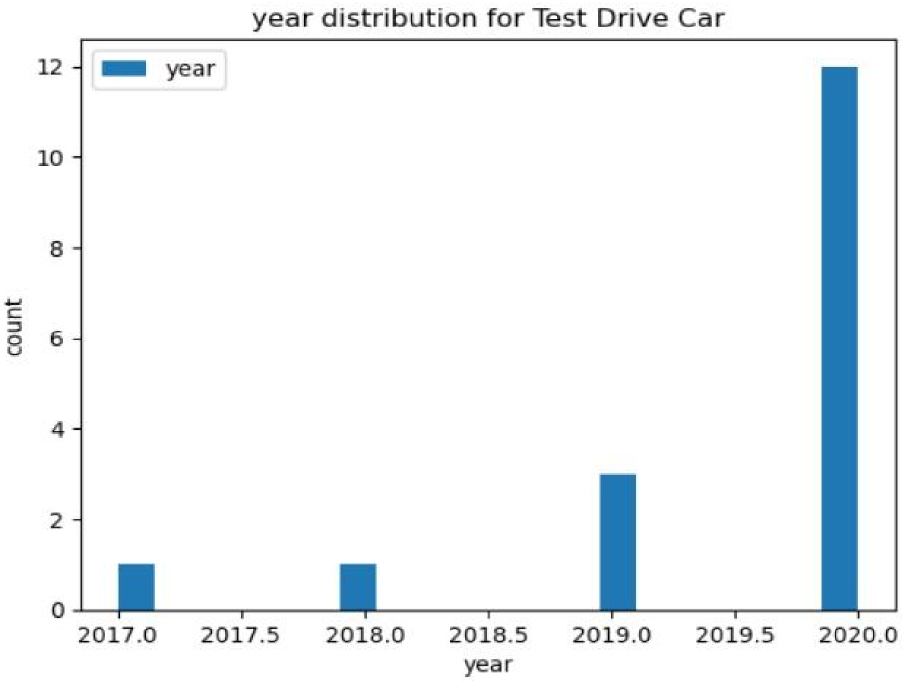


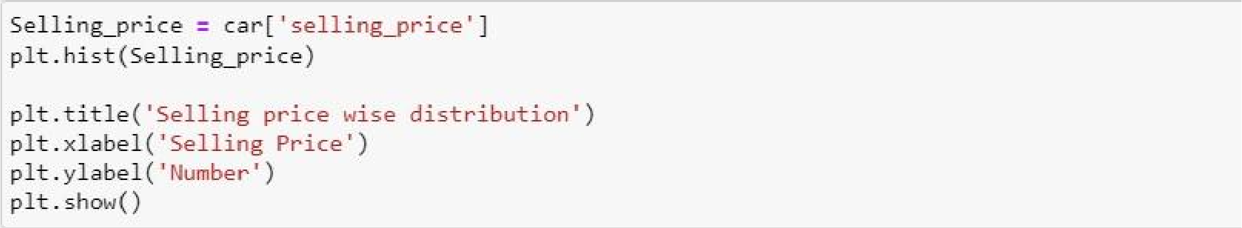
year distribution for Second Owner
year
count
0
50
100
150
200
1995
2000
2005
2010
2015
2020
year



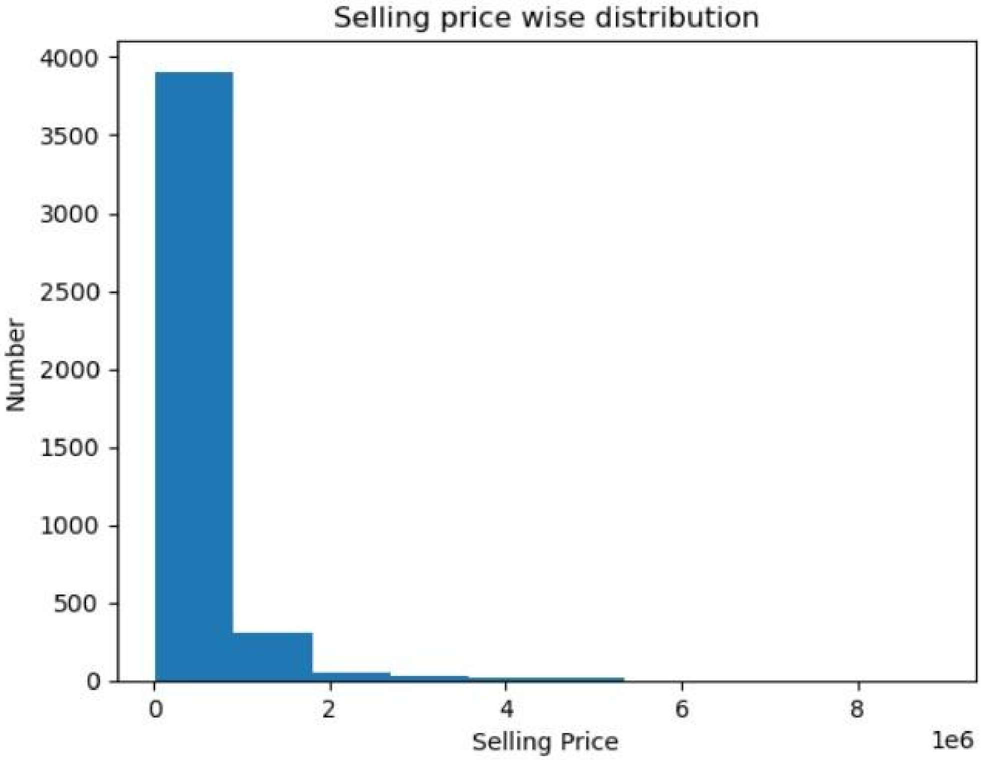
year distribution for Third Owner
year
count
0
10
20
30
40
50
60
2000
2005
2010
2015
2020
year

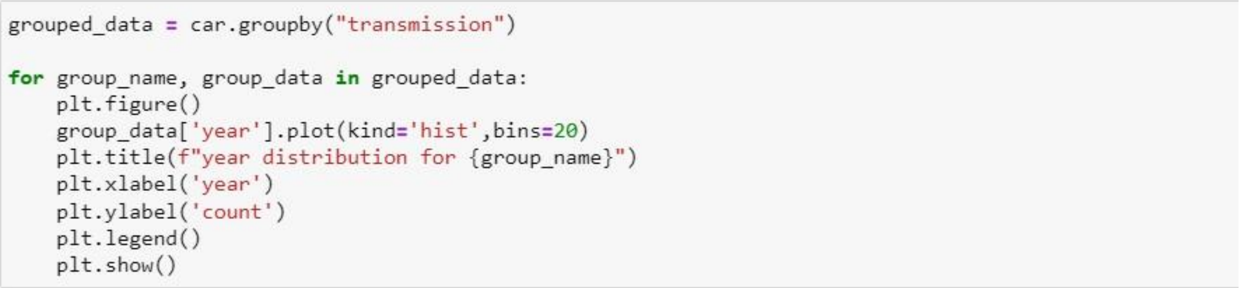

year distribution for Fourth & Above Owner
year
count
17.5
15.0
12.5
10.0
7.5
5.0
2.5
0.0
1995
2000
2005
2010
2015
2020
year


year distribution for Test Drive Car
year
count
12
10
8
6
4
2
0
2017.0
2017.5
2018.0
2018.5
2019.0
2019.5
2020.0
year

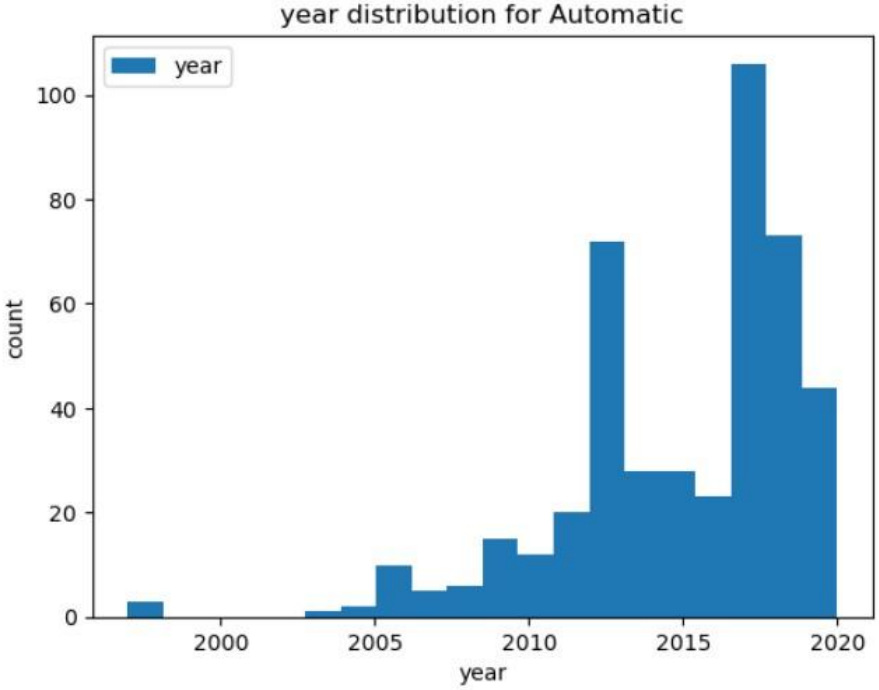


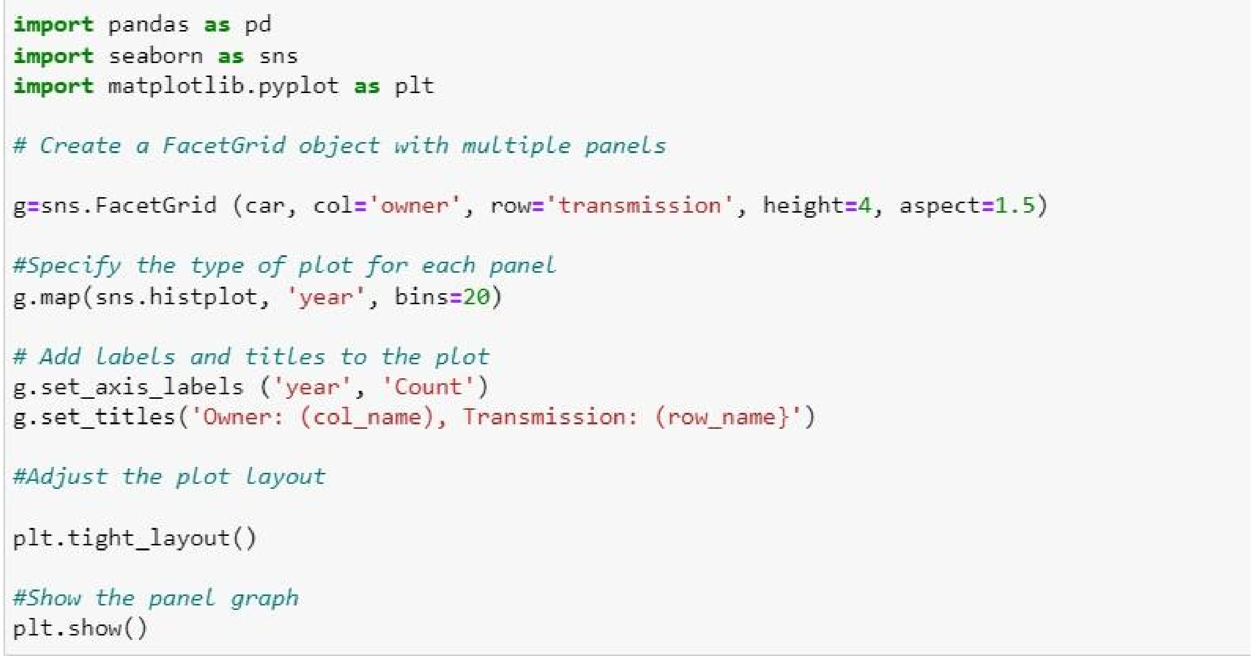
```
Selling_price = car['selling_price']
plt.hist(Selling_price)

plt.title('Selling price wise distribution')
plt.xlabel('Selling Price')
plt.ylabel('Number')
plt.show()
```



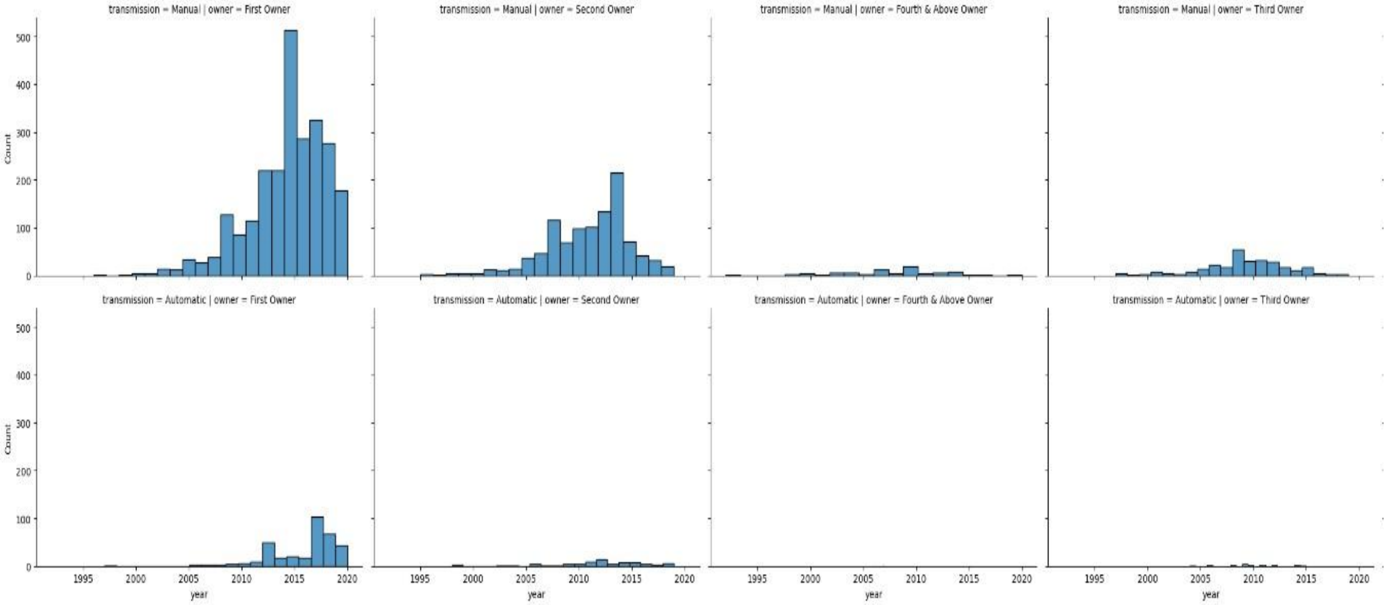


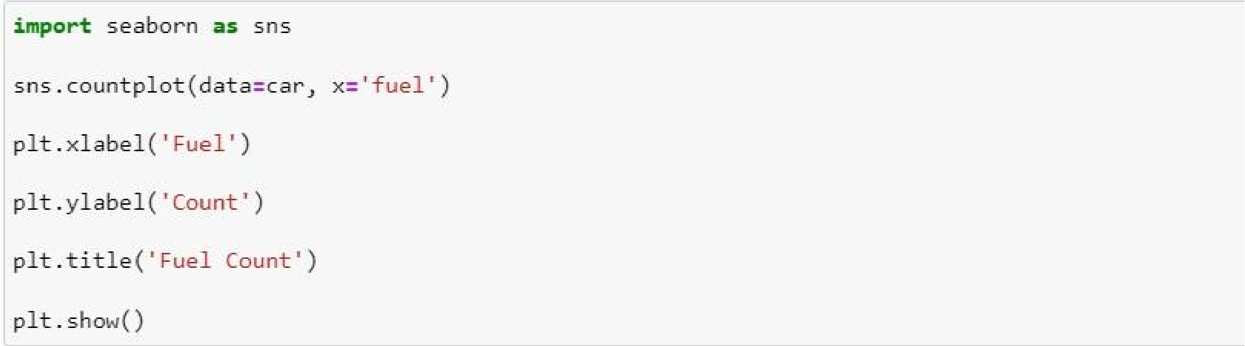
```
grouped_data = car.groupby("transmission")

for group_name, group_data in grouped_data:
    plt.figure()
    group_data['year'].plot(kind='hist',bins=20)
    plt.title(f"year distribution for {group_name}")
    plt.xlabel('year')
    plt.ylabel('count')
    plt.legend()
    plt.show()
```



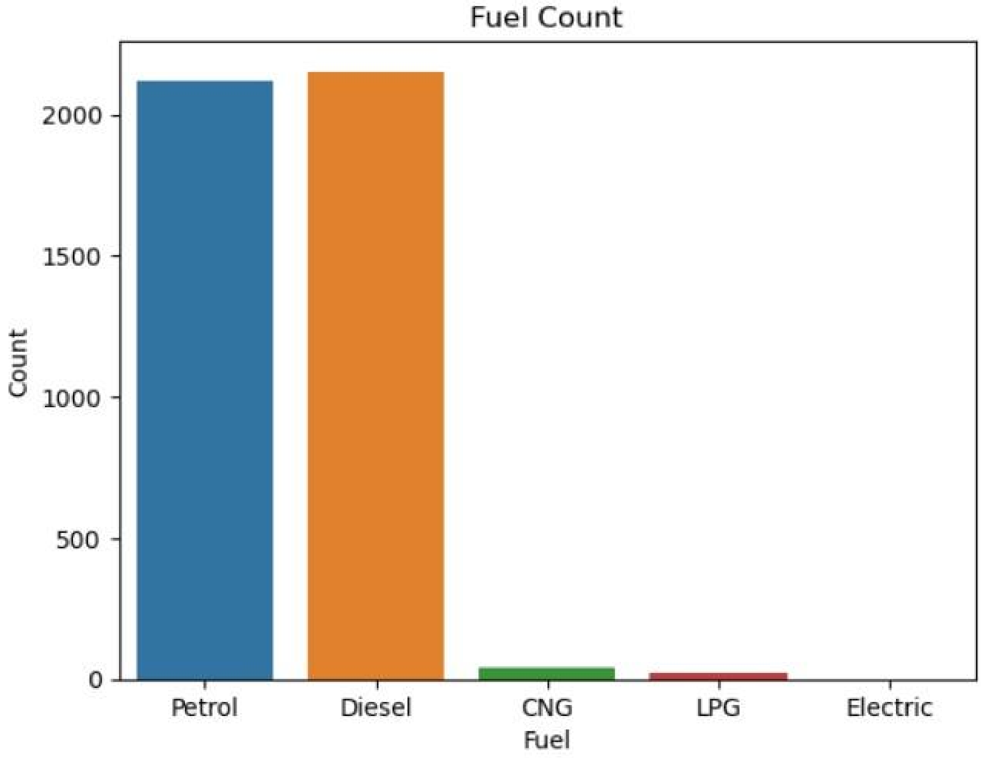


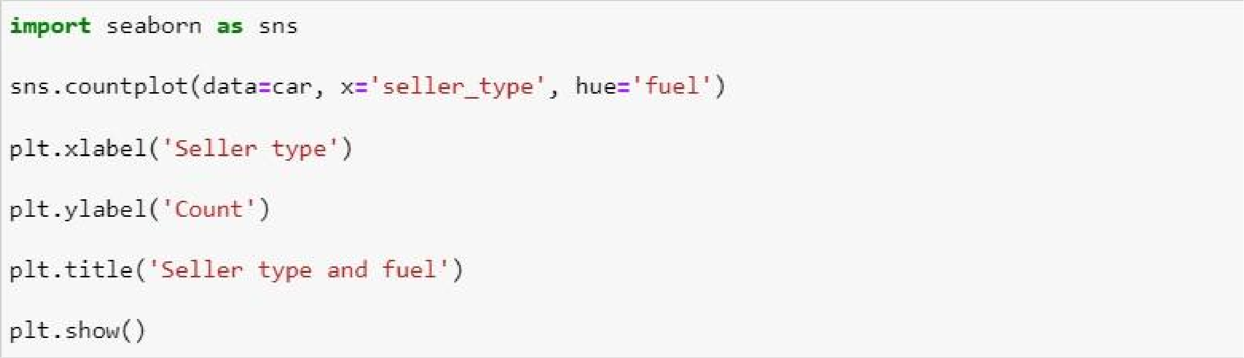
```
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt

# Create a FacetGrid object with multiple panels

g=sns.FacetGrid (car, col='owner', row='transmission', height=4, aspect=1.5)

#Specify the type of plot for each panel
g.map(sns.histplot, 'year', bins=20)

# Add labels and titles to the plot
g.set_axis_labels ('year', 'Count')
g.set_titles('Owner: (col_name), Transmission: (row_name}')

#Adjust the plot layout

plt.tight_layout()

#Show the panel graph
plt.show()
```



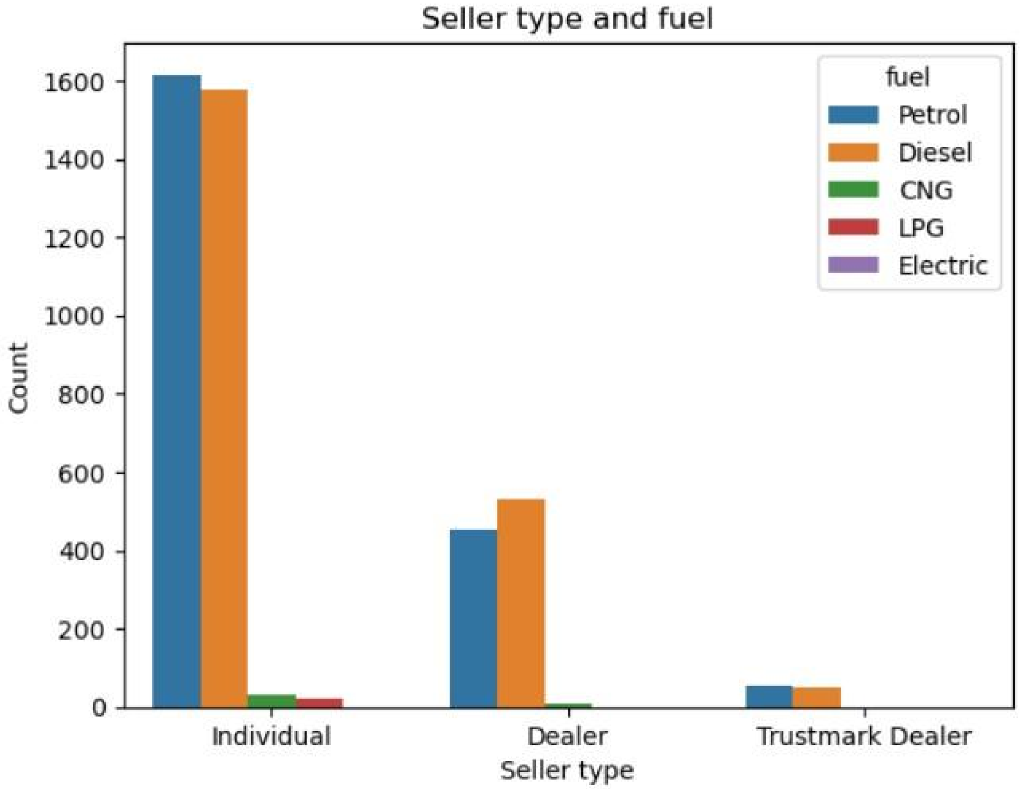


```
import seaborn as sns

sns.countplot(data=car, x='fuel')

plt.xlabel('Fuel')

plt.ylabel('Count')

plt.title('Fuel Count')

plt.show()
```





```
import seaborn as sns

sns.countplot(data=car, x='seller_type', hue='fuel')

plt.xlabel('Seller type')

plt.ylabel('Count')

plt.title('Seller type and fuel')

plt.show()
```


Seller type and fuel
fuel
Petrol
Diesel
CNG
LPG
Electric
Count
Individual
Dealer
Trustmark Dealer
Seller type