

```
In [2]: import pandas as pd
data=pd.read_csv("/home/placement/Downloads/fiat500.csv")
print(data)
```

	ID	model	engine_power	age_in_days	km	previous_owners	\
0	1	lounge	51	882	25000	1	
1	2	pop	51	1186	32500	1	
2	3	sport	74	4658	142228	1	
3	4	lounge	51	2739	160000	1	
4	5	pop	73	3074	106880	1	
...	...	...	...	...	...	...	...
1533	1534	sport	51	3712	115280	1	
1534	1535	lounge	74	3835	112000	1	
1535	1536	pop	51	2223	60457	1	
1536	1537	lounge	51	2557	80750	1	
1537	1538	pop	51	1766	54276	1	

	lat	lon	price
0	44.907242	8.611560	8900
1	45.666359	12.241890	8800
2	45.503300	11.417840	4200
3	40.633171	17.634609	6000
4	41.903221	12.495650	5700
...	...	...	...
1533	45.069679	7.704920	5200
1534	45.845692	8.666870	4600
1535	45.481541	9.413480	7500
1536	45.000702	7.682270	5990
1537	40.323410	17.568270	7900

[1538 rows x 9 columns]

## loc[]

```
In [3]: data1=data.loc[(data.km<=50000)]
```

In [4]: data1

Out[4]:

	ID	model	engine_power	age_in_days	km	previous_owners	lat	lon	price
0	1	lounge	51	882	25000	1	44.907242	8.61156	8900
1	2	pop	51	1186	32500	1	45.666359	12.24189	8800
6	7	lounge	51	731	11600	1	44.907242	8.61156	10750
7	8	lounge	51	1521	49076	1	41.903221	12.49565	9190
10	11	pop	51	790	43286	1	40.871429	14.43896	8950
...	...	...	...	...	...	...	...	...	...
1525	1526	lounge	51	790	41870	1	45.707249	11.47760	9500
1526	1527	lounge	51	1705	23600	1	38.122070	13.36112	9300
1527	1528	pop	51	517	3000	1	40.748241	14.52835	9999
1529	1530	lounge	51	731	22551	1	38.122070	13.36112	9900
1530	1531	lounge	51	670	29000	1	45.764648	8.99450	10800

907 rows × 9 columns

## groupby()

In [5]: data2=data1.groupby(["model"]).count()

```
In [6]: data2
```

```
Out[6]:
```

	ID	engine_power	age_in_days	km	previous_owners	lat	lon	price
model								
lounge	734	734	734	734	734	734	734	734
pop	162	162	162	162	162	162	162	162
sport	11	11	11	11	11	11	11	11

## rename the column

```
In [7]: data3=data.rename(columns={'model':'model_name'})
```

```
In [8]: list(data3)
```

```
Out[8]: ['ID',  
         'model_name',  
         'engine_power',  
         'age_in_days',  
         'km',  
         'previous_owners',  
         'lat',  
         'lon',  
         'price']
```

## drop the column

In [9]: `data3.drop(columns='lon')`

Out[9]:

	ID	model_name	engine_power	age_in_days	km	previous_owners	lat	price
0	1	lounge	51	882	25000	1	44.907242	8900
1	2	pop	51	1186	32500	1	45.666359	8800
2	3	sport	74	4658	142228	1	45.503300	4200
3	4	lounge	51	2739	160000	1	40.633171	6000
4	5	pop	73	3074	106880	1	41.903221	5700
...	...	...	...	...	...	...	...	...
1533	1534	sport	51	3712	115280	1	45.069679	5200
1534	1535	lounge	74	3835	112000	1	45.845692	4600
1535	1536	pop	51	2223	60457	1	45.481541	7500
1536	1537	lounge	51	2557	80750	1	45.000702	5990
1537	1538	pop	51	1766	54276	1	40.323410	7900

1538 rows × 8 columns

In [10]: data3

Out[10]:

	ID	model_name	engine_power	age_in_days	km	previous_owners	lat	lon	price
0	1	lounge	51	882	25000	1	44.907242	8.611560	8900
1	2	pop	51	1186	32500	1	45.666359	12.241890	8800
2	3	sport	74	4658	142228	1	45.503300	11.417840	4200
3	4	lounge	51	2739	160000	1	40.633171	17.634609	6000
4	5	pop	73	3074	106880	1	41.903221	12.495650	5700
...	...	...	...	...	...	...	...	...	...
1533	1534	sport	51	3712	115280	1	45.069679	7.704920	5200
1534	1535	lounge	74	3835	112000	1	45.845692	8.666870	4600
1535	1536	pop	51	2223	60457	1	45.481541	9.413480	7500
1536	1537	lounge	51	2557	80750	1	45.000702	7.682270	5990
1537	1538	pop	51	1766	54276	1	40.323410	17.568270	7900

1538 rows × 9 columns

In [11]: data4=data3.drop(columns='lat')*#drop the 'lat' column*

In [12]: data4

Out[12]:

	ID	model_name	engine_power	age_in_days	km	previous_owners	lon	price
0	1	lounge	51	882	25000	1	8.611560	8900
1	2	pop	51	1186	32500	1	12.241890	8800
2	3	sport	74	4658	142228	1	11.417840	4200
3	4	lounge	51	2739	160000	1	17.634609	6000
4	5	pop	73	3074	106880	1	12.495650	5700
...	...	...	...	...	...	...	...	...
1533	1534	sport	51	3712	115280	1	7.704920	5200
1534	1535	lounge	74	3835	112000	1	8.666870	4600
1535	1536	pop	51	2223	60457	1	9.413480	7500
1536	1537	lounge	51	2557	80750	1	7.682270	5990
1537	1538	pop	51	1766	54276	1	17.568270	7900

1538 rows × 8 columns

In [13]: data.groupby(['model']).count() *#count the each model using groupby function*

Out[13]:

	ID	engine_power	age_in_days	km	previous_owners	lat	lon	price
<b>model</b>								
<b>lounge</b>	1094	1094	1094	1094	1094	1094	1094	1094
<b>pop</b>	358	358	358	358	358	358	358	358
<b>sport</b>	86	86	86	86	86	86	86	86

In [14]: `data.sample(5)`

Out[14]:

	ID	model	engine_power	age_in_days	km	previous_owners	lat	lon	price
<b>20</b>	21	lounge	51	397	19037	1	45.707249	11.47760	10500
<b>1095</b>	1096	lounge	51	670	28642	1	45.609829	9.14700	9990
<b>1125</b>	1126	pop	51	2374	108000	1	45.783669	8.96724	7400
<b>474</b>	475	pop	51	1005	60879	1	45.584091	9.27096	8350
<b>407</b>	408	lounge	51	366	16000	1	44.294300	9.67444	10500

In [ ]:

In [ ]: