

```
In [1]: 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 [8]: data1=data.loc[(data.km<=50000)]
```

In [9]: data1

Out[9]:

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

```
In [20]: data2
```

```
Out[20]:
```

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

```
In [30]: list(data3)
```

```
Out[30]: ['ID',  
          'model_name',  
          'engine_power',  
          'age_in_days',  
          'km',  
          'previous_owners',  
          'lat',  
          'lon',  
          'price']
```

drop the column

```
In [31]: data3.drop(columns='lon')
```

```
Out[31]:
```

	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 [32]: data3

Out[32]:

	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 [38]: data4=data3.drop(columns='lat')

In [39]: data4

Out[39]:

	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 [45]: data.groupby(['model']).count()

Out[45]:

	ID	engine_power	age_in_days	km	previous_owners	lat	lon	price
model								
lounge	1094	1094	1094	1094	1094	1094	1094	1094
pop	358	358	358	358	358	358	358	358
sport	86	86	86	86	86	86	86	86

```
In [46]: data.sample(5)
```

```
Out[46]:
```

	ID	model	engine_power	age_in_days	km	previous_owners	lat	lon	price
1107	1108	lounge	51	1035	22000	1	41.055920	14.29944	9500
553	554	lounge	51	578	12982	1	45.467960	9.18178	10800
765	766	pop	51	2616	99999	1	45.684212	12.37558	7500
444	445	lounge	51	3743	50432	1	45.069679	7.70492	6200
464	465	lounge	51	762	12161	1	37.518581	15.00711	10800

```
In [ ]: x=
```