In [1]: import pandas as pd
data=pd.read_csv("/home/placement/Downloads/fiat500.csv")

In [2]: data.describe()

Out[2]:

	ID	engine_power	age_in_days	km	previous_owners	lat	lon	price
count	1538.000000	1538.000000	1538.000000	1538.000000	1538.000000	1538.000000	1538.000000	1538.000000
mean	769.500000	51.904421	1650.980494	53396.011704	1.123537	43.541361	11.563428	8576.003901
std	444.126671	3.988023	1289.522278	40046.830723	0.416423	2.133518	2.328190	1939.958641
min	1.000000	51.000000	366.000000	1232.000000	1.000000	36.855839	7.245400	2500.000000
25%	385.250000	51.000000	670.000000	20006.250000	1.000000	41.802990	9.505090	7122.500000
50%	769.500000	51.000000	1035.000000	39031.000000	1.000000	44.394096	11.869260	9000.000000
75%	1153.750000	51.000000	2616.000000	79667.750000	1.000000	45.467960	12.769040	10000.000000
max	1538.000000	77.000000	4658.000000	235000.000000	4.000000	46.795612	18.365520	11100.000000

```
In [3]: data
```

Out[3]:

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

```
In [5]: data.groupby(['model']).count()
Out[5]:
                   ID engine_power age_in_days
                                                km previous owners
                                                                          lon price
           model
          lounge 1094
                              1094
                                          1094 1094
                                                              1094
                                                                   1094 1094
                                                                               1094
                  358
                               358
                                           358
                                                358
                                                                358
                                                                     358
                                                                          358
                                                                                358
             pop
                   86
                                86
                                            86
                                                 86
                                                                86
                                                                      86
                                                                           86
                                                                                 86
            sport
```

```
In [6]: data['model']=data['model'].map({'lounge':1,'pop':2,'sport':3})
```

In [7]: data

Out[7]:

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

1538 rows × 9 columns

In [8]: cor=data.corr()

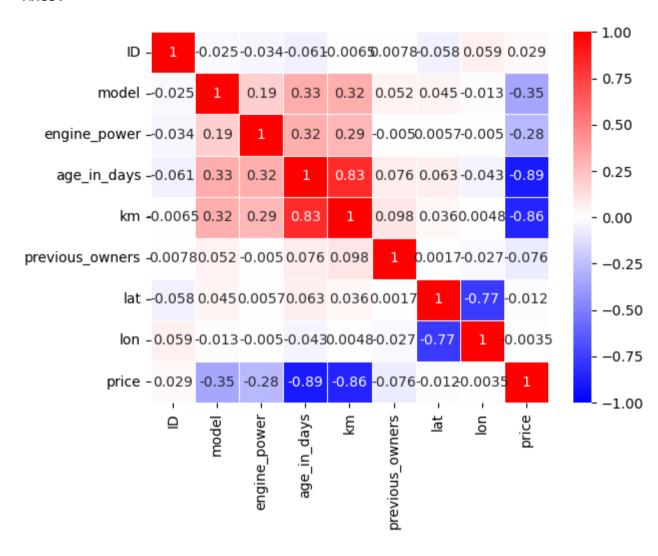
In [9]: cor

Out[9]:

	ID	model	engine_power	age_in_days	km	previous_owners	lat	lon	price
ID	1.000000	-0.024740	-0.034059	-0.060753	-0.006537	0.007803	-0.058207	0.058941	0.028516
model	-0.024740	1.000000	0.189906	0.326508	0.319580	0.052480	0.044901	-0.013200	-0.349885
engine_power	-0.034059	0.189906	1.000000	0.319190	0.285495	-0.005030	0.005721	-0.005032	-0.277235
age_in_days	-0.060753	0.326508	0.319190	1.000000	0.833890	0.075775	0.062982	-0.042667	-0.893328
km	-0.006537	0.319580	0.285495	0.833890	1.000000	0.097539	0.035519	0.004839	-0.859373
previous_owners	0.007803	0.052480	-0.005030	0.075775	0.097539	1.000000	0.001697	-0.026836	-0.076274
lat	-0.058207	0.044901	0.005721	0.062982	0.035519	0.001697	1.000000	-0.766646	-0.011733
lon	0.058941	-0.013200	-0.005032	-0.042667	0.004839	-0.026836	-0.766646	1.000000	-0.003541
price	0.028516	-0.349885	-0.277235	-0.893328	-0.859373	-0.076274	-0.011733	-0.003541	1.000000



Out[10]: <Axes: >



T _m I	1.0	
TU I	1.0	
	4.5	