```
import numpy as np
In [1]:
In [2]: import pandas as pd
In [4]: data=pd.read csv("/home/placement/Downloads/fiat500.csv")
          data.describe()
In [5]:
Out[5]:
                           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
                   769.500000
                                  51.904421
                                             1650.980494
                                                           53396.011704
                                                                                1.123537
                                                                                           43.541361
                                                                                                        11.563428
                                                                                                                   8576.003901
            mean
                                                                                                         2.328190
              std
                   444.126671
                                    3.988023
                                             1289.522278
                                                           40046.830723
                                                                                0.416423
                                                                                            2.133518
                                                                                                                   1939.958641
                     1.000000
                                   51.000000
                                              366.000000
                                                            1232.000000
                                                                                1.000000
                                                                                           36.855839
                                                                                                         7.245400
                                                                                                                   2500.000000
             min
             25%
                                                                                                         9.505090
                   385.250000
                                  51.000000
                                              670.000000
                                                           20006.250000
                                                                                1.000000
                                                                                           41.802990
                                                                                                                   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
                                                                                4.000000
             max 1538.000000
                                  77.000000
                                             4658.000000
                                                          235000.000000
                                                                                           46.795612
                                                                                                        18.365520
                                                                                                                  11100.000000
          data.head()
In [6]:
Out[6]:
                  model engine_power age_in_days
                                                        km previous owners
                                                                                    lat
                                                                                              Ion price
                                                      25000
                                                                          1 44.907242
                                                                                         8.611560
                                                                                                  8900
           0
               1
                  lounge
                                    51
                                               882
           1
               2
                                    51
                                               1186
                                                      32500
                                                                             45.666359 12.241890
                                                                                                  8800
                     pop
                                    74
                                                    142228
               3
                   sport
                                               4658
                                                                             45.503300 11.417840
                                                                                                  4200
                                    51
                                               2739
                                                    160000
                                                                          1 40.633171 17.634609
                                                                                                  6000
                  lounge
               5
                                    73
                                               3074
                                                    106880
                                                                          1 41.903221 12.495650
                                                                                                  5700
                     pop
```

## In [7]: data.tail()

## Out[7]:

	ID	model	engine_power	age_in_days	km	previous_owners	lat	lon	price
1533	1534	sport	51	3712	115280	1	45.069679	7.70492	5200
1534	1535	lounge	74	3835	112000	1	45.845692	8.66687	4600
1535	1536	pop	51	2223	60457	1	45.481541	9.41348	7500
1536	1537	lounge	51	2557	80750	1	45.000702	7.68227	5990
1537	1538	рор	51	1766	54276	1	40.323410	17.56827	7900

## In [8]: data.info()

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 1538 entries, 0 to 1537
Data columns (total 9 columns):
```

Data	cocumins (cocac s	cocumins).					
#	Column	Non-Null Count	Dtype				
0	ID	1538 non-null	int64				
1	model	1538 non-null	object				
2	engine_power	1538 non-null	int64				
3	age_in_days	1538 non-null	int64				
4	km	1538 non-null	int64				
5	previous_owners	1538 non-null	int64				
6	lat	1538 non-null	float64				
7	lon	1538 non-null	float64				
8	price	1538 non-null	int64				
$d_{1}$ , $d_{2}$ , $d_{3}$ , $d_{4}$ , $d_{5}$ , $d$							

dtypes: float64(2), int64(6), object(1)

memory usage: 108.3+ KB

```
In [9]:
          list(data)
 Out[9]: ['ID',
            'model'.
            'engine power',
            'age in days',
            'km',
            'previous_owners',
            'lat',
            'lon',
            'price']
In [15]: data['model']=data['model'].map({'lounge':1,'pop':2,'sport':3})
In [16]: data
Out[16]:
                   ID model engine_power age_in_days
                                                          km previous owners
                                                                                    lat
                                                                                             lon price
                                       51
                                                        25000
              0
                    1
                           1
                                                  882
                                                                           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
                                                 2739
                                                       160000
                                                                           1 40.633171 17.634609
                                                                                                  6000
                           1
                                       51
                    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
                                                                           1 45.481541
            1535
                1536
                           2
                                       51
                                                 2223
                                                        60457
                                                                                        9.413480
                                                                                                  7500
            1536 1537
                                                 2557
                                                        80750
                                                                           1 45.000702
                                                                                        7.682270
                                                                                                  5990
                           1
                                       51
            1537 1538
                           2
                                       51
                                                 1766
                                                        54276
                                                                           1 40.323410 17.568270
                                                                                                  7900
```

1538 rows × 9 columns

In [ ]: