In [1]:

```
import numpy as np
import pandas as pd
```

In [4]:

```
y=pd.read_csv(r"C:\Users\user\Downloads\fiat500_VehicleSelection_Dataset - fiat500_Vehicl
y
```

Out[4]:

	ID	model	engine_power	age_in_days	km	previous_owners	lat	
0	1.0	lounge	51.0	882.0	25000.0	1.0	44.907242	8.6115
1	2.0	pop	51.0	1186.0	32500.0	1.0	45.666359	12.241
2	3.0	sport	74.0	4658.0	142228.0	1.0	45.503300	11.
3	4.0	lounge	51.0	2739.0	160000.0	1.0	40.633171	17.634
4	5.0	pop	73.0	3074.0	106880.0	1.0	41.903221	12.495
...	...	...	...	...	...	...	...	
1544	NaN	NaN	NaN	NaN	NaN	NaN	NaN	
1545	NaN	NaN	NaN	NaN	NaN	NaN	NaN	
1546	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Null
1547	NaN	NaN	NaN	NaN	NaN	NaN	NaN	
1548	NaN	NaN	NaN	NaN	NaN	NaN	NaN	

1549 rows × 11 columns

In [6]:

```
y.head(5)
```

Out[6]:

	ID	model	engine_power	age_in_days	km	previous_owners	lat	lo
0	1.0	lounge	51.0	882.0	25000.0	1.0	44.907242	8.61155986
1	2.0	pop	51.0	1186.0	32500.0	1.0	45.666359	12.2418899
2	3.0	sport	74.0	4658.0	142228.0	1.0	45.503300	11.4178
3	4.0	lounge	51.0	2739.0	160000.0	1.0	40.633171	17.6346092
4	5.0	pop	73.0	3074.0	106880.0	1.0	41.903221	12.4956502

In [7]:

```
y.tail(5)
```

Out[7]:

	ID	model	engine_power	age_in_days	km	previous_owners	lat	lon	price
1544	NaN	NaN	NaN	NaN	NaN	NaN	NaN	length	5
1545	NaN	NaN	NaN	NaN	NaN	NaN	NaN	concat	lonprice
1546	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Null values	NO
1547	NaN	NaN	NaN	NaN	NaN	NaN	NaN	find	1
1548	NaN	NaN	NaN	NaN	NaN	NaN	NaN	search	1

In [8]:

```
y.dtypes
```

Out[8]:

```
ID                 float64
model               object
engine_power       float64
age_in_days        float64
km                 float64
previous_owners    float64
lat                float64
lon                 object
price               object
Unnamed: 9         float64
Unnamed: 10         object
dtype: object
```

In [9]:

```
y.index
```

Out[9]:

```
RangeIndex(start=0, stop=1549, step=1)
```

In [10]:

```
y.describe()
```

Out[10]:

	ID	engine_power	age_in_days	km	previous_owners	la
count	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
std	444.126671	3.988023	1289.522278	40046.830723	0.416423	2.133518
min	1.000000	51.000000	366.000000	1232.000000	1.000000	36.855839
25%	385.250000	51.000000	670.000000	20006.250000	1.000000	41.802990
50%	769.500000	51.000000	1035.000000	39031.000000	1.000000	44.394096
75%	1153.750000	51.000000	2616.000000	79667.750000	1.000000	45.467960
max	1538.000000	77.000000	4658.000000	235000.000000	4.000000	46.795612

In [12]:

```
y["lat"]
```

Out[12]:

```
0       44.907242
1       45.666359
2       45.503300
3       40.633171
4       41.903221
          ...
1544          NaN
1545          NaN
1546          NaN
1547          NaN
1548          NaN
Name: lat, Length: 1549, dtype: float64
```

In [13]:

```
y[1:8]
```

Out[13]:

	ID	model	engine_power	age_in_days	km	previous_owners	lat	lo
1	2.0	pop	51.0	1186.0	32500.0	1.0	45.666359	12.2418899
2	3.0	sport	74.0	4658.0	142228.0	1.0	45.503300	11.4178
3	4.0	lounge	51.0	2739.0	160000.0	1.0	40.633171	17.6346092
4	5.0	pop	73.0	3074.0	106880.0	1.0	41.903221	12.4956502
5	6.0	pop	74.0	3623.0	70225.0	1.0	45.000702	7.6822700
6	7.0	lounge	51.0	731.0	11600.0	1.0	44.907242	8.61155986
7	8.0	lounge	51.0	1521.0	49076.0	1.0	41.903221	12.4956502

In [14]:

```
y.loc[0:8]
```

Out[14]:

	ID	model	engine_power	age_in_days	km	previous_owners	lat	lo
0	1.0	lounge	51.0	882.0	25000.0	1.0	44.907242	8.61155986
1	2.0	pop	51.0	1186.0	32500.0	1.0	45.666359	12.2418899
2	3.0	sport	74.0	4658.0	142228.0	1.0	45.503300	11.4178
3	4.0	lounge	51.0	2739.0	160000.0	1.0	40.633171	17.6346092
4	5.0	pop	73.0	3074.0	106880.0	1.0	41.903221	12.4956502
5	6.0	pop	74.0	3623.0	70225.0	1.0	45.000702	7.6822700
6	7.0	lounge	51.0	731.0	11600.0	1.0	44.907242	8.61155986
7	8.0	lounge	51.0	1521.0	49076.0	1.0	41.903221	12.4956502
8	9.0	sport	73.0	4049.0	76000.0	1.0	45.548000	11.5494699

In [15]:

```
y.iloc[1:8]
```

Out[15]:

	ID	model	engine_power	age_in_days	km	previous_owners	lat	lo
1	2.0	pop	51.0	1186.0	32500.0	1.0	45.666359	12.2418899
2	3.0	sport	74.0	4658.0	142228.0	1.0	45.503300	11.4178
3	4.0	lounge	51.0	2739.0	160000.0	1.0	40.633171	17.6346092
4	5.0	pop	73.0	3074.0	106880.0	1.0	41.903221	12.4956502
5	6.0	pop	74.0	3623.0	70225.0	1.0	45.000702	7.6822700
6	7.0	lounge	51.0	731.0	11600.0	1.0	44.907242	8.61155986
7	8.0	lounge	51.0	1521.0	49076.0	1.0	41.903221	12.4956502

In [18]:

```
y.loc["id":"Unnamed:10"]
```

Out[18]:

	ID	model	engine_power	age_in_days	km	previous_owners	lat	lon	price	Unnamed: 9	U

In [19]:

```
pd.isna(y)
```

Out[19]:

	ID	model	engine_power	age_in_days	km	previous_owners	lat	lon	price
0	False	False	False	False	False	False	False	False	False
1	False	False	False	False	False	False	False	False	False
2	False	False	False	False	False	False	False	False	False
3	False	False	False	False	False	False	False	False	False
4	False	False	False	False	False	False	False	False	False
...	...	...	...	...	...	...	...	...	...
1544	True	True	True	True	True	True	True	False	False
1545	True	True	True	True	True	True	True	False	False
1546	True	True	True	True	True	True	True	False	False
1547	True	True	True	True	True	True	True	False	False
1548	True	True	True	True	True	True	True	False	False

1549 rows × 11 columns

In [20]:

```
y.fillna(value=10)
```

Out[20]:

	ID	model	engine_power	age_in_days	km	previous_owners	lat	
0	1.0	lounge	51.0	882.0	25000.0	1.0	44.907242	8.6115
1	2.0	pop	51.0	1186.0	32500.0	1.0	45.666359	12.241
2	3.0	sport	74.0	4658.0	142228.0	1.0	45.503300	11.
3	4.0	lounge	51.0	2739.0	160000.0	1.0	40.633171	17.634
4	5.0	pop	73.0	3074.0	106880.0	1.0	41.903221	12.495
...	...	...	...	...	...	...	...	
1544	10.0	10	10.0	10.0	10.0	10.0	10.000000	
1545	10.0	10	10.0	10.0	10.0	10.0	10.000000	
1546	10.0	10	10.0	10.0	10.0	10.0	10.000000	Null
1547	10.0	10	10.0	10.0	10.0	10.0	10.000000	
1548	10.0	10	10.0	10.0	10.0	10.0	10.000000	

1549 rows × 11 columns

In [21]:

```
y.dropna()
```

Out[21]:

	ID	model	engine_power	age_in_days	km	previous_owners	lat	lon	price	Unnamed: 9	U

In [22]:

```
y.dropna(axis=1,how='any')
```

Out[22]:

	lon	price
0	8.611559868	8900
1	12.24188995	8800
2	11.41784	4200
3	17.63460922	6000
4	12.49565029	5700
...	...	...
1544	length	5
1545	concat	lonprice
1546	Null values	NO
1547	find	1
1548	search	1

1549 rows × 2 columns

In [23]:

```
y.columns
```

Out[23]:

```
Index(['ID', 'model', 'engine_power', 'age_in_days', 'km', 'previous_owner
s',
       'lat', 'lon', 'price', 'Unnamed: 9', 'Unnamed: 10'],
      dtype='object')
```

In [ ]:

```

```