22/07/2023

In [1]:
```
import numpy as np
import pandas as pd
import matplotlib.pyplot as pp
```

In [83]:
```
x=pd.read_csv(r"C:\Users\user\Downloads\1_fiat500_VehicleSelection_Dataset.csv
x
```

Out[83]:

	ID	model	engine_power	age_in_days	km	previous_owners	lat	l
0	1.0	lounge	51.0	882.0	25000.0	1.0	44.907242	8.6115598
1	2.0	pop	51.0	1186.0	32500.0	1.0	45.666359	12.241889
2	3.0	sport	74.0	4658.0	142228.0	1.0	45.503300	11.417
3	4.0	lounge	51.0	2739.0	160000.0	1.0	40.633171	17.634609
4	5.0	pop	73.0	3074.0	106880.0	1.0	41.903221	12.495650
...	...	...	...	...	...	...	...	
1544	NaN	NaN	NaN	NaN	NaN	NaN	NaN	leng
1545	NaN	NaN	NaN	NaN	NaN	NaN	NaN	con
1546	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Null valu
1547	NaN	NaN	NaN	NaN	NaN	NaN	NaN	fi
1548	NaN	NaN	NaN	NaN	NaN	NaN	NaN	sear

1549 rows × 11 columns

In [124]:
```
x=x.head(400)
```

In [125]:
```
x.dtypes
```

Out[125]:
```
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 [126]:
```
x.head()
```

Out[126]:

	ID	model	engine_power	age_in_days	km	previous_owners	lat	lon
0	1.0	lounge	51.0	882.0	25000.0	1.0	44.907242	8.611559868
1	2.0	pop	51.0	1186.0	32500.0	1.0	45.666359	12.24188995
2	3.0	sport	74.0	4658.0	142228.0	1.0	45.503300	11.41784
3	4.0	lounge	51.0	2739.0	160000.0	1.0	40.633171	17.63460922
4	5.0	pop	73.0	3074.0	106880.0	1.0	41.903221	12.49565029

In [127]:
```
x.tail()
```

Out[127]:

	ID	model	engine_power	age_in_days	km	previous_owners	lat	l
395	396.0	pop	51.0	366.0	18818.0	1.0	45.022388	7.5860199
396	397.0	lounge	51.0	821.0	10800.0	1.0	45.642502	12.163
397	398.0	lounge	51.0	578.0	32057.0	1.0	43.782372	11.254989
398	399.0	lounge	51.0	1035.0	69900.0	1.0	41.903221	12.495650
399	400.0	lounge	51.0	3258.0	155000.0	1.0	43.332722	11.719329

In [128]:
```
x.columns
```

Out[128]:
```
Index(['ID', 'model', 'engine_power', 'age_in_days', 'km', 'previous_owners',
       'lat', 'lon', 'price', 'Unnamed: 9', 'Unnamed: 10'],
      dtype='object')
```

In [129]:
```
x.index
```

Out[129]:
```
RangeIndex(start=0, stop=400, step=1)
```

In [130]:
```
x.describe()
```

Out[130]:

	ID	engine_power	age_in_days	km	previous_owners	lat	Uni
count	400.000000	400.000000	400.00000	400.000000	400.000000	400.000000	
mean	200.500000	52.022500	1746.78250	55470.712500	1.170000	43.640084	
std	115.614301	4.289288	1365.51805	42785.940389	0.454551	2.136373	
min	1.000000	51.000000	366.00000	1232.000000	1.000000	37.607948	
25%	100.750000	51.000000	578.00000	18591.500000	1.000000	41.903221	
50%	200.500000	51.000000	1096.00000	40000.000000	1.000000	44.508839	
75%	300.250000	51.000000	2907.25000	84805.000000	1.000000	45.467960	
max	400.000000	77.000000	4658.00000	188000.000000	4.000000	46.792019	

In [131]:
```
x["km"]
```

Out[131]:
```
0       25000.0
1       32500.0
2      142228.0
3      160000.0
4      106880.0
         ...
395     18818.0
396     10800.0
397     32057.0
398     69900.0
399    155000.0
Name: km, Length: 400, dtype: float64
```

In [132]:
```
x[0:2]
```

Out[132]:

	ID	model	engine_power	age_in_days	km	previous_owners	lat	lon	p
0	1.0	lounge	51.0	882.0	25000.0	1.0	44.907242	8.611559868	8
1	2.0	pop	51.0	1186.0	32500.0	1.0	45.666359	12.24188995	8

In [133]:
```
x.iloc[0:2]
```

Out[133]:

	ID	model	engine_power	age_in_days	km	previous_owners	lat	lon	p
0	1.0	lounge	51.0	882.0	25000.0	1.0	44.907242	8.611559868	8
1	2.0	pop	51.0	1186.0	32500.0	1.0	45.666359	12.24188995	8

In [134]:
```
x.loc[0:3]
```

Out[134]:

	ID	model	engine_power	age_in_days	km	previous_owners	lat	lon
0	1.0	lounge	51.0	882.0	25000.0	1.0	44.907242	8.611559868
1	2.0	pop	51.0	1186.0	32500.0	1.0	45.666359	12.24188995
2	3.0	sport	74.0	4658.0	142228.0	1.0	45.503300	11.41784
3	4.0	lounge	51.0	2739.0	160000.0	1.0	40.633171	17.63460922

In [135]:
```
x.loc["ID":"lat"]
```

Out[135]:

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

In [136]:
```
x[x["km"]<=2]
```

Out[136]:

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

In [137]:
```
x.fillna(value=5)
```

Out[137]:

	ID	model	engine_power	age_in_days	km	previous_owners	lat	l
0	1.0	lounge	51.0	882.0	25000.0	1.0	44.907242	8.6115598
1	2.0	pop	51.0	1186.0	32500.0	1.0	45.666359	12.241889
2	3.0	sport	74.0	4658.0	142228.0	1.0	45.503300	11.417
3	4.0	lounge	51.0	2739.0	160000.0	1.0	40.633171	17.634609
4	5.0	pop	73.0	3074.0	106880.0	1.0	41.903221	12.495650
...	...	...	...	...	...	...	...	...
395	396.0	pop	51.0	366.0	18818.0	1.0	45.022388	7.5860199
396	397.0	lounge	51.0	821.0	10800.0	1.0	45.642502	12.163
397	398.0	lounge	51.0	578.0	32057.0	1.0	43.782372	11.254989
398	399.0	lounge	51.0	1035.0	69900.0	1.0	41.903221	12.495650
399	400.0	lounge	51.0	3258.0	155000.0	1.0	43.332722	11.719329

400 rows × 11 columns

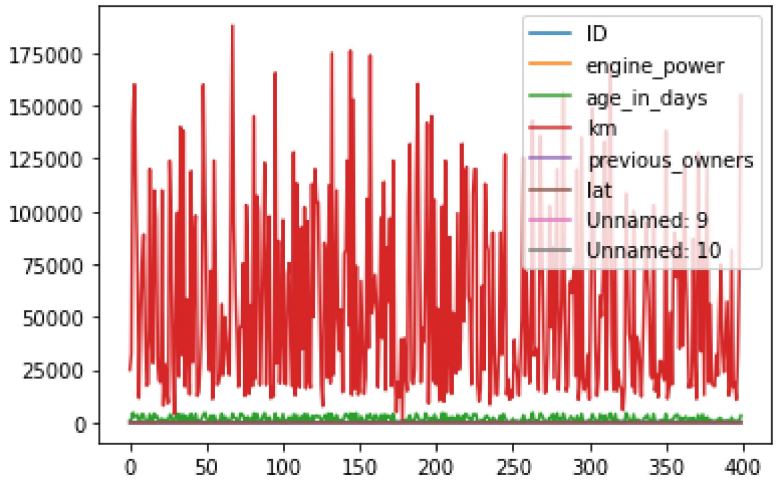
In [138]:
```
x.dropna()
```

Out[138]:

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

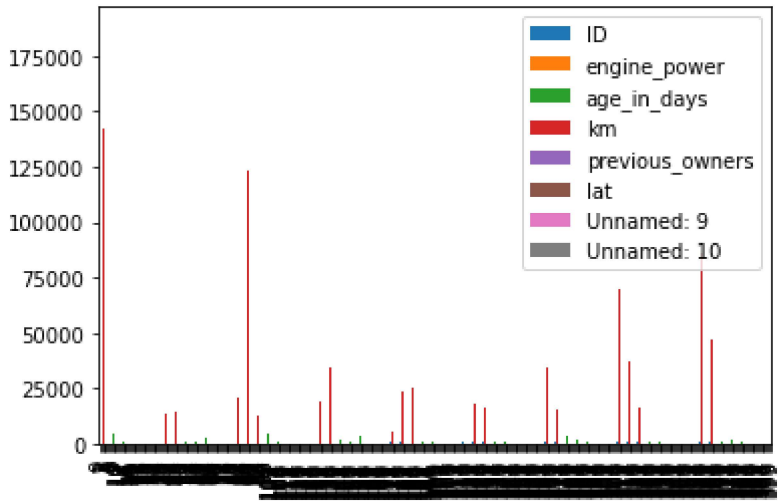
In [139]:
```
x.plot.line()
```

Out[139]: <AxesSubplot:>



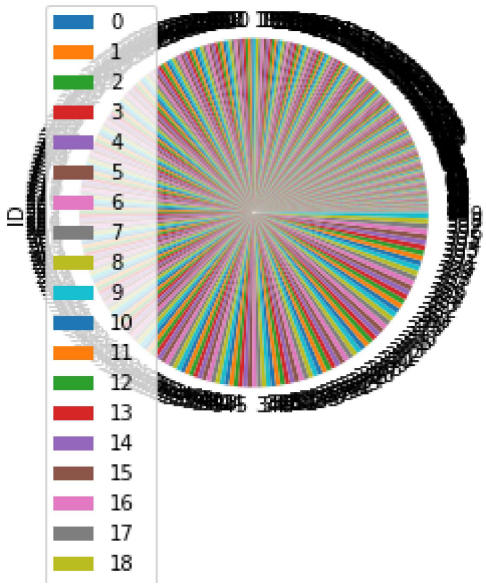
In [140]:
```
x.plot.bar()
```

Out[140]: <AxesSubplot:>



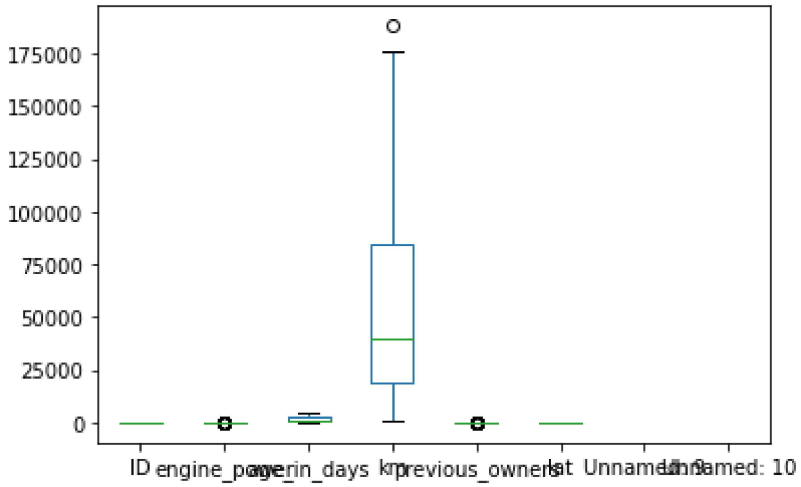
In [142]:
```
x.plot.pie(y='ID')
```

Out[142]: <AxesSubplot:ylabel='ID'>



In [143]:
```
x.plot.box()
```

Out[143]: <AxesSubplot:>



In [144]:
```
x.plot.scatter(x='previous_owners',y='age_in_days')
```

Out[144]: <AxesSubplot:xlabel='previous_owners', ylabel='age_in_days'>