Santhosh Gopi B

import libraries

In [1]:
```
import pandas as pd
import numpy as np
```

Read file

In [2]:
```
f=pd.read_csv(r"E:\154\fiat500_VehicleSelection_Dataset - fiat500_VehicleSelection_Dataset.csv")[0:1000]
```

Display File

In [3]:
```
display(df)
```

	ID	model	engine_power	age_in_days	km	previous_owners	lat	lon	price	Unnamed: 9	Unnamed 1
0	1.0	lounge	51.0	882.0	25000.0	1.0	44.907242	8.611559868	8900	NaN	Na
1	2.0	pop	51.0	1186.0	32500.0	1.0	45.666359	12.24188995	8800	NaN	Na
2	3.0	sport	74.0	4658.0	142228.0	1.0	45.503300	11.41784	4200	NaN	Na
3	4.0	lounge	51.0	2739.0	160000.0	1.0	40.633171	17.63460922	6000	NaN	Na
4	5.0	pop	73.0	3074.0	106880.0	1.0	41.903221	12.49565029	5700	NaN	Na
...	...	...	...	...	...	...	...	...	...	...	
995	996.0	pop	51.0	701.0	13947.0	1.0	45.438110	12.31814957	9700	NaN	Na
996	997.0	lounge	51.0	2192.0	106000.0	1.0	40.563889	17.33919907	7500	NaN	Na
997	998.0	sport	51.0	3470.0	139750.0	3.0	41.232948	16.29486084	5800	NaN	Na
998	999.0	pop	51.0	731.0	56000.0	3.0	40.840141	14.25226021	8900	NaN	Na
999	1000.0	pop	51.0	2070.0	97677.0	1.0	42.514408	14.14770985	7790	NaN	Na

1000 rows × 11 columns

MEAN

In [4]:
```
df.mean()
```

Out[4]:
```
ID                   500.50000
engine_power          52.04200
age_in_days         1719.68200
km                 53534.79800
previous_owners        1.11300
lat                   43.61404
price                      inf
Unnamed: 9                 NaN
Unnamed: 10                NaN
dtype: float64
```

Median

In [5]:
```
df.median()
```

Out[5]:
```
ID                   500.500000
engine_power          51.000000
age_in_days         1066.000000
km                 39000.000000
previous_owners        1.000000
lat                   44.508839
lon                   11.686445
price               8990.000000
Unnamed: 9                  NaN
Unnamed: 10                 NaN
dtype: float64
```

Mode

In [6]:
```
df.mode()
```

Out[6]:

	ID	model	engine_power	age_in_days	km	previous_owners	lat	lon	price	Unnamed: 9	Unnamed 1
0	1.0	lounge	51.0	790.0	17000.0	1.0	41.903221	12.49565029	10500	NaN	Nal
1	2.0	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Nal
2	3.0	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Nal
3	4.0	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Nal
4	5.0	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Nal
...	...	...	...	...	...	...	...	...	...	...	.
995	996.0	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Nal
996	997.0	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Nal
997	998.0	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Nal
998	999.0	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Nal
999	1000.0	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	Nal

1000 rows × 11 columns

Describe

In [7]:
```
df.describe()
```

Out[7]:

	ID	engine_power	age_in_days	km	previous_owners	lat	Unnamed: 9
count	1000.000000	1000.000000	1000.000000	1000.000000	1000.000000	1000.000000	0.0
mean	500.500000	52.042000	1719.682000	53534.798000	1.113000	43.614040	NaN
std	288.819436	4.224936	1328.372435	40437.973289	0.382593	2.111694	NaN
min	1.000000	51.000000	366.000000	1232.000000	1.000000	36.855839	NaN
25%	250.750000	51.000000	670.000000	19352.250000	1.000000	41.903221	NaN
50%	500.500000	51.000000	1066.000000	39000.000000	1.000000	44.508839	NaN
75%	750.250000	51.000000	2861.000000	81900.000000	1.000000	45.467960	NaN
max	1000.000000	77.000000	4658.000000	201000.000000	4.000000	46.792019	NaN

Sum

In [8]:
```
df.sum()
```

Out[8]:
```
ID                                                          500500.0
model             loungepopsportloungepoppoploungeloungesportspo...
engine_power                                                52042.0
age_in_days                                               1719682.0
km                                                       53534798.0
previous_owners                                             1113.0
lat                                                      43614.040066
lon               8.61155986812.2418899511.4178417.6346092212.49...
price             89008800420060005700790010750919056006000895 01...
Unnamed: 9                                                    0.0
Unnamed: 10                                                     0
dtype: object
```

Cumulative Sum

In [9]:
```
df.cumsum()
```

0	1.0	lounge	51.0	882.0	25000.0	1.0		
1	3.0	loungepop	102.0	2068.0	57500.0	2.0		
2	6.0	loungepopsport	176.0	6726.0	199728.0	3.0		
3	10.0	loungepopsportlounge	227.0	9465.0	359728.0	4.0		
4	15.0	loungepopsportloungepop	300.0	12539.0	466608.0	5.0		
...	...	...	...	...	...	...	...	
995	496506.0	loungepopsportloungepoppoploungeloungesportspo...	51838.0	1711219.0	53135371.0	1105.0	434	
996	497503.0	loungepopsportloungepoppoploungeloungesportspo...	51889.0	1713411.0	53241371.0	1106.0	434	
997	498501.0	loungepopsportloungepoppoploungeloungesportspo...	51940.0	1716881.0	53381121.0	1109.0	435	
998	499500.0	loungepopsportloungepoppoploungeloungesportspo...	51991.0	1717612.0	53437121.0	1112.0	435	
999	500500.0	loungepopsportloungepoppoploungeloungesportspo...	52042.0	1719682.0	53534798.0	1113.0	436	

1000 rows × 11 columns

Minimum Values

In [10]:
```
df.min()
```

Out[10]:
```
ID                      1.0
model                lounge
engine_power             51.0
age_in_days             366.0
km                     1232.0
previous_owners           1.0
lat                  36.855839
lon                10.01521015
price                  10000
Unnamed: 9               NaN
Unnamed: 10             None
dtype: object
```

Maximum Values

In [11]:
```
df.max()
```

Out[11]:
```
ID                   1000.0
model                 sport
engine_power           77.0
age_in_days          4658.0
km                 201000.0
previous_owners         4.0
lat                46.792019
lon                9.97453022
price                  9999
Unnamed: 9              NaN
Unnamed: 10            None
dtype: object
```

Correlation

In [12]:
```
from scipy.stats import spearmanr
print(spearmanr(df['engine_power'],df['age_in_days']))
```

```
SpearmanrResult(correlation=0.28229361219487004, pvalue=8.910400317568507e-20)
```

Co variance

In [13]:
```
from scipy.stats import pearsonr
print(pearsonr(df['engine_power'],df['age_in_days']))
```

```
(0.324760550476927, 5.408738724498388e-26)
```

In [ ]:
```

```