

mk 27-07-2023

```
In [ ]: # import libraries
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
```

```
In [141]: x=pd.read_csv(r"C:\Users\user\Downloads\12_mobile_prices_2023 - 12_mobile_pric
```

```
Out[141]:
```

	Phone Name	Rating ?/5	Number of Ratings	RAM	ROM/Storage	Back/Rare Camera	Front Camera	Battery	Processor	P
0	POCO C50 (Royal Blue, 32 GB)	4.2	33,561	2 GB RAM	32 GB ROM	8MP Dual Camera	5MP Front Camera	5000 mAh	Mediatek Helio A22 Processor, Upto 2.0 GHz Pro...	
1	POCO M4 5G (Cool Blue, 64 GB)	4.2	77,128	4 GB RAM	64 GB ROM	50MP + 2MP	8MP Front Camera	5000 mAh	Mediatek Dimensity 700 Processor	₹
2	POCO C51 (Royal Blue, 64 GB)	4.3	15,175	4 GB RAM	64 GB ROM	8MP Dual Rear Camera	5MP Front Camera	5000 mAh	Helio G36 Processor	
3	POCO C55 (Cool Blue, 64 GB)	4.2	22,621	4 GB RAM	64 GB ROM	50MP Dual Rear Camera	5MP Front Camera	5000 mAh	Mediatek Helio G85 Processor	
4	POCO C51 (Power Black, 64 GB)	4.3	15,175	4 GB RAM	64 GB ROM	8MP Dual Rear Camera	5MP Front Camera	5000 mAh	Helio G36 Processor	
...	
1831	Infinix Note 7 (Forest Green, 64 GB)	4.3	25,582	4 GB RAM	64 GB ROM	48MP + 2MP + 2MP + AI Lens Camera	16MP Front Camera	5000 mAh	MediaTek Helio G70 Processor	₹
1832	Infinix Note 7 (Bolivia Blue, 64 GB)	4.3	25,582	4 GB RAM	64 GB ROM	48MP + 2MP + 2MP + AI Lens Camera	16MP Front Camera	5000 mAh	MediaTek Helio G70 Processor	₹
1833	Infinix Note 7 (Aether Black, 64 GB)	4.3	25,582	4 GB RAM	64 GB ROM	48MP + 2MP + 2MP + AI Lens Camera	16MP Front Camera	5000 mAh	MediaTek Helio G70 Processor	₹
1834	Infinix Zero 8i (Silver Diamond, 128 GB)	4.2	7,117	8 GB RAM	128 GB ROM	48MP + 8MP + 2MP + AI Lens Camera	16MP + 8MP Dual Front Camera	4500 mAh	MediaTek Helio G90T Processor	₹
1835	Infinix S5 (Quetzal Cyan, 64 GB)	4.3	15,701	4 GB RAM	64 GB ROM	16MP + 5MP + 2MP + Low Light Sensor	32MP Front Camera	4000 mAh	Helio P22 (MTK6762) Processor	₹

1836 rows × 11 columns

```
In [142]: x=x.head(100)
```

```
Out[142]:
```

	Phone Name	Rating ?/5	Number of Ratings	RAM	ROM/Storage	Back/Rare Camera	Front Camera	Battery	Processor	Pr
0	POCO C50 (Royal Blue, 32 GB)	4.2	33,561	2 GB RAM	32 GB ROM	8MP Dual Camera	5MP Front Camera	5000 mAh	Mediatek Helio A22 Processor, Upto 2.0 GHz Pro...	₹
1	POCO M4 5G (Cool Blue, 64 GB)	4.2	77,128	4 GB RAM	64 GB ROM	50MP + 2MP	8MP Front Camera	5000 mAh	Mediatek Dimensity 700 Processor	₹1
2	POCO C51 (Royal Blue, 64 GB)	4.3	15,175	4 GB RAM	64 GB ROM	8MP Dual Rear Camera	5MP Front Camera	5000 mAh	Helio G36 Processor	₹
3	POCO C55 (Cool Blue, 64 GB)	4.2	22,621	4 GB RAM	64 GB ROM	50MP Dual Rear Camera	5MP Front Camera	5000 mAh	Mediatek Helio G85 Processor	₹
4	POCO C51 (Power Black, 64 GB)	4.3	15,175	4 GB RAM	64 GB ROM	8MP Dual Rear Camera	5MP Front Camera	5000 mAh	Helio G36 Processor	₹
...
95	POCO M2 (Slate Blue, 64 GB)	4.4	4,09,478	6 GB RAM	64 GB ROM	13MP + 8MP + 5MP + 2MP	8MP Front Camera	5000 mAh	MediaTek Helio G80 Processor	₹1
96	POCO M3 (Yellow, 64 GB)	4.3	1,25,650	4 GB RAM	64 GB ROM	48MP + 2MP + 2MP	8MP Front Camera	6000 mAh	Qualcomm Snapdragon 662 Processor	₹1
97	POCO M2 (Slate Blue, 64 GB)	4.4	4,09,478	6 GB RAM	64 GB ROM	13MP + 8MP + 5MP + 2MP	8MP Front Camera	5000 mAh	MediaTek Helio G80 Processor	₹1
98	POCO M2 Reloaded (Greyish Black, 64 GB)	4.3	67,498	4 GB RAM	64 GB ROM	13MP + 8MP + 5MP + 2MP	8MP Front Camera	5000 mAh	MediaTek Helio G80 Processor	₹1
99	POCO X3 Pro (Golden Bronze, 128 GB)	4.3	1,37,003	6 GB RAM	128 GB ROM	48MP + 8MP + 2MP + 2MP	20MP Front Camera	5160 mAh	Qualcomm Snapdragon 860 Processor	₹2

100 rows × 11 columns

In [143]:

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 100 entries, 0 to 99
Data columns (total 11 columns):
#   Column                Non-Null Count  Dtype
---  ---
0   Phone Name            100 non-null    object
1   Rating ?/5           100 non-null    float64
2   Number of Ratings     100 non-null    object
3   RAM                   100 non-null    object
4   ROM/Storage           100 non-null    object
5   Back/Rare Camera      100 non-null    object
6   Front Camera          100 non-null    object
7   Battery               100 non-null    object
8   Processor             100 non-null    object
9   Price in INR          100 non-null    object
10  Date of Scraping      100 non-null    object
dtypes: float64(1), object(10)
memory usage: 8.7+ KB
```

In [144]:

```
Out[144]: Index(['Phone Name', 'Rating ?/5', 'Number of Ratings', 'RAM', 'ROM/Storage',
                  'Back/Rare Camera', 'Front Camera', 'Battery', 'Processor',
                  'Price in INR', 'Date of Scraping'],
                  dtype='object')
```

```
In [147]: d=x[['Phone Name', 'Rating ?/5', 'Number of Ratings', 'RAM', 'ROM/Storage',
               'Back/Rare Camera', 'Front Camera', 'Battery', 'Processor',
               'Price in INR', 'Date of Scraping']]
```

Out[147]:

	Phone Name	Rating ?/5	Number of Ratings	RAM	ROM/Storage	Back/Rare Camera	Front Camera	Battery	Processor	Pr
0	POCO C50 (Royal Blue, 32 GB)	4.2	33,561	2 GB RAM	32 GB ROM	8MP Dual Camera	5MP Front Camera	5000 mAh	Mediatek Helio A22 Processor, Upto 2.0 GHz Pro...	₹
1	POCO M4 5G (Cool Blue, 64 GB)	4.2	77,128	4 GB RAM	64 GB ROM	50MP + 2MP	8MP Front Camera	5000 mAh	Mediatek Dimensity 700 Processor	₹1
2	POCO C51 (Royal Blue, 64 GB)	4.3	15,175	4 GB RAM	64 GB ROM	8MP Dual Rear Camera	5MP Front Camera	5000 mAh	Helio G36 Processor	₹
3	POCO C55 (Cool Blue, 64 GB)	4.2	22,621	4 GB RAM	64 GB ROM	50MP Dual Rear Camera	5MP Front Camera	5000 mAh	Mediatek Helio G85 Processor	₹
4	POCO C51 (Power Black, 64 GB)	4.3	15,175	4 GB RAM	64 GB ROM	8MP Dual Rear Camera	5MP Front Camera	5000 mAh	Helio G36 Processor	₹
...
95	POCO M2 (Slate Blue, 64 GB)	4.4	4,09,478	6 GB RAM	64 GB ROM	13MP + 8MP + 5MP + 2MP	8MP Front Camera	5000 mAh	MediaTek Helio G80 Processor	₹1
96	POCO M3 (Yellow, 64 GB)	4.3	1,25,650	4 GB RAM	64 GB ROM	48MP + 2MP + 2MP	8MP Front Camera	6000 mAh	Qualcomm Snapdragon 662 Processor	₹1
97	POCO M2 (Slate Blue, 64 GB)	4.4	4,09,478	6 GB RAM	64 GB ROM	13MP + 8MP + 5MP + 2MP	8MP Front Camera	5000 mAh	MediaTek Helio G80 Processor	₹1
98	POCO M2 Reloaded (Greyish Black, 64 GB)	4.3	67,498	4 GB RAM	64 GB ROM	13MP + 8MP + 5MP + 2MP	8MP Front Camera	5000 mAh	MediaTek Helio G80 Processor	₹1
99	POCO X3 Pro (Golden Bronze, 128 GB)	4.3	1,37,003	6 GB RAM	128 GB ROM	48MP + 8MP + 2MP + 2MP	20MP Front Camera	5160 mAh	Qualcomm Snapdragon 860 Processor	₹2

100 rows × 11 columns

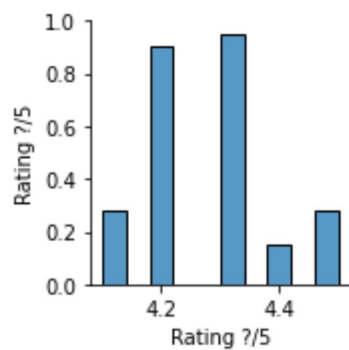
In [148]:

Out[148]:

	Rating ?/5
count	100.000000
mean	4.271000
std	0.110367
min	4.100000
25%	4.200000
50%	4.300000
75%	4.300000
max	4.500000

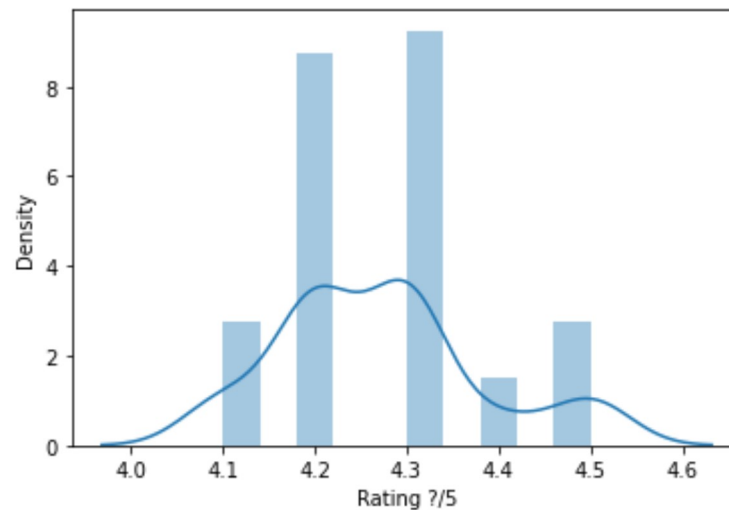
In [149]:

Out[149]: <seaborn.axisgrid.PairGrid at 0x2602b891550>



In [152]:

Out[152]: <AxesSubplot:xlabel='Rating ?/5', ylabel='Density'>



In [153]:

In [154]:

Out[154]: <AxesSubplot:>

In [156]: `x=x1[['Rating ?/5']]`In [157]: `# to split my dataset into training and test data`

```
from sklearn.model_selection import train_test_split
```

In [158]: `from sklearn.linear_model import LinearRegression`

```
lr=LinearRegression()
```

Out[158]: `LinearRegression()`

In [159]:

```
8.881784197001252e-16
```

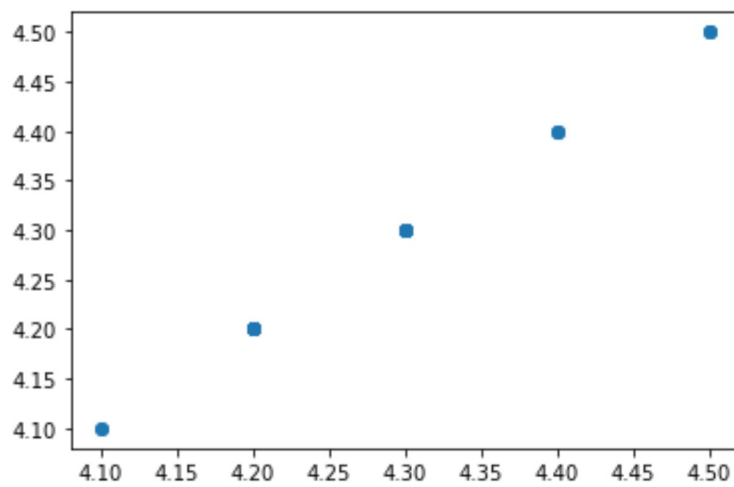
In [160]: `coeff=pd.DataFrame(lr.coef_,x.columns,columns=['Co-efficient'])`

Out[160]:

	Co-efficient
Rating ?/5	1.0


```
In [161]: prediction=lr.predict(x_test)
```

```
Out[161]: <matplotlib.collections.PathCollection at 0x2602d0b86d0>
```



```
In [162]:
```

```
Out[162]: 1.0
```

```
In [ ]:
```