In [76]:
```
# import libaries
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
```

In [305]:
```
x=pd.read_csv(r"C:\Users\user\Downloads\12_mobile_prices_2023 - 12_mobile_pric
```

Out[305]:

	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 [306]:
```
x=x.head(10)
```

Out[306]:

	Phone Name	Rating ?/5	Number of Ratings	RAM	ROM/Storage	Back/Rare Camera	Front Camera	Battery	Processor	Price i INI
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...	₹5,64
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	₹11,99
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	₹6,99
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	₹7,74
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	₹6,99
5	POCO M4 5G (Power Black, 64 GB)	4.2	77,128	4 GB RAM	64 GB ROM	50MP + 2MP	8MP Front Camera	5000 mAh	Mediatek Dimensity 700 Processor	₹11,99
6	POCO C55 (Power Black, 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	₹7,74
7	POCO C55 (Forest Green, 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	₹7,74
8	POCO C55 (Cool Blue, 128 GB)	4.1	13,647	6 GB RAM	128 GB ROM	50MP Dual Rear Camera	5MP Front Camera	5000 mAh	Mediatek Helio G85 Processor	₹9,24
9	POCO M4 5G (Yellow, 128 GB)	4.2	40,525	6 GB RAM	128 GB ROM	50MP + 2MP	8MP Front Camera	5000 mAh	Mediatek Dimensity 700 Processor	₹13,99

In [307]:

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 10 entries, 0 to 9
Data columns (total 11 columns):
 #   Column             Non-Null Count  Dtype  
---  ------             --------------  -----  
 0   Phone Name         10 non-null     object 
 1   Rating ?/5         10 non-null     float64
 2   Number of Ratings  10 non-null     object 
 3   RAM                10 non-null     object 
 4   ROM/Storage        10 non-null     object 
 5   Back/Rare Camera   10 non-null     object 
 6   Front Camera       10 non-null     object 
 7   Battery            10 non-null     object 
 8   Processor          10 non-null     object 
 9   Price in INR       10 non-null     object 
 10  Date of Scraping   10 non-null     object 
dtypes: float64(1), object(10)
memory usage: 1008.0+ bytes
```

In [308]:

Out[308]:

```
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 [310]:

```
d=x[[ 'Phone Name', 'Rating ?/5', 'Number of Ratings', 'RAM', 'ROM/Storage']]
```

Out[310]:

	Phone Name	Rating ?/5	Number of Ratings	RAM	ROM/Storage
0	POCO C50 (Royal Blue, 32 GB)	4.2	33,561	2 GB RAM	32 GB ROM
1	POCO M4 5G (Cool Blue, 64 GB)	4.2	77,128	4 GB RAM	64 GB ROM
2	POCO C51 (Royal Blue, 64 GB)	4.3	15,175	4 GB RAM	64 GB ROM
3	POCO C55 (Cool Blue, 64 GB)	4.2	22,621	4 GB RAM	64 GB ROM
4	POCO C51 (Power Black, 64 GB)	4.3	15,175	4 GB RAM	64 GB ROM
5	POCO M4 5G (Power Black, 64 GB)	4.2	77,128	4 GB RAM	64 GB ROM
6	POCO C55 (Power Black, 64 GB)	4.2	22,621	4 GB RAM	64 GB ROM
7	POCO C55 (Forest Green, 64 GB)	4.2	22,621	4 GB RAM	64 GB ROM
8	POCO C55 (Cool Blue, 128 GB)	4.1	13,647	6 GB RAM	128 GB ROM
9	POCO M4 5G (Yellow, 128 GB)	4.2	40,525	6 GB RAM	128 GB ROM

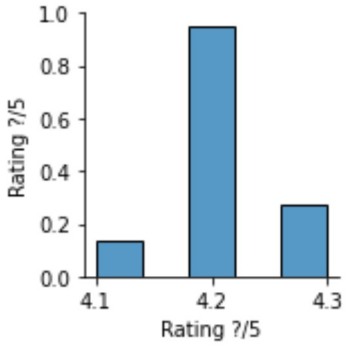
In [311]:

Out[311]:

	Rating ?/5
count	10.000000
mean	4.210000
std	0.056765
min	4.100000
25%	4.200000
50%	4.200000
75%	4.200000
max	4.300000

In [312]:

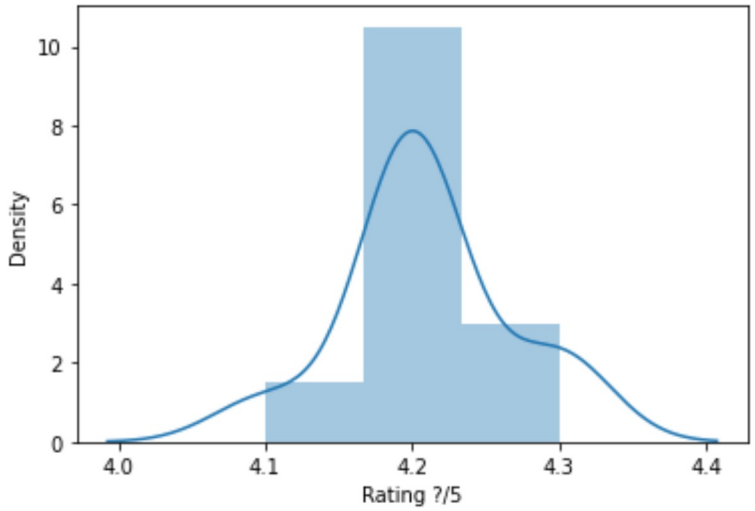
Out[312]: <seaborn.axisgrid.PairGrid at 0x190cfc1f220>



In [313]:

```
C:\ProgramData\Anaconda3\lib\site-packages\seaborn\distributions.py:2557: Fut
ureWarning: `distplot` is a deprecated function and will be removed in a futu
re version. Please adapt your code to use either `displot` (a figure-level fu
nction with similar flexibility) or `histplot` (an axes-level function for hi
stograms).
  warnings.warn(msg, FutureWarning)
```

Out[313]: <AxesSubplot:xlabel='Rating ?/5', ylabel='Density'>



In [314]:

In [315]:

Out[315]: <AxesSubplot:>

In [316]:

```
x=x1[['Rating ?/5']]
```

In [317]:
```
# to split my dataset into traning and test date

from sklearn.model_selection import train_test_split
```

In [318]:
```
from sklearn.linear_model import LinearRegression

lr=LinearRegression()
```

Out[318]:
```
LinearRegression()
```

In [319]:

```
-1.7763568394002505e-15
```

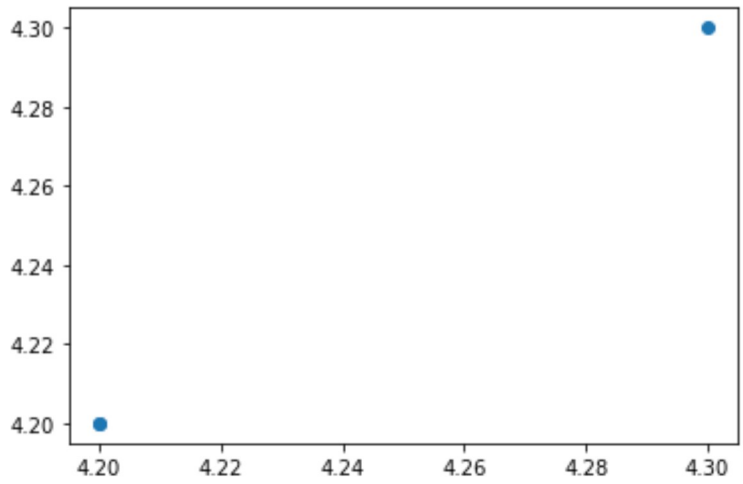
In [320]:
```
coeff=pd.DataFrame(lr.coef_,x.columns,columns=['Co-efficient'])
```

Out[320]:

	Co-efficient
Rating ?/5	1.0

In [321]:
```
prediction=lr.predict(x_test)
```

Out[321]:
```
<matplotlib.collections.PathCollection at 0x190d025deb0>
```



In [322]:

Out[322]:
```
1.0
```

In [323]:

Out[323]:
```
1.0
```

In [324]:

In [325]:
```
rr=Ridge(alpha=10)
rr.fit(x_train,y_train)
```

Out[325]: -0.49401795211973565

In [326]:
```
la=Lasso(alpha=10)
```

Out[326]: Lasso(alpha=10)

In [327]:

Out[327]: -0.4999999999999998

In [328]:
```
from sklearn.linear_model import ElasticNet
en=ElasticNet()
```

Out[328]: ElasticNet()

In [329]:

Out[329]: array([0.])

In [330]:

Out[330]: array([4.2, 4.2, 4.2])

In [331]:

Out[331]: 4.2

In [332]:

Out[332]: -0.4999999999999998

In [333]:

In [334]:

Mean Absolute Error 0.0

In [335]:

Mean Squared Error 0.0

In [336]:

Root Mean Squared Error 0.0

In [ ]: