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In [1]:
```
#to import libraries
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

In [4]:
```
#to import dataset
data1=pd.read_csv(r"C:\Users\user\Downloads\5_Instagram data - 5_Instagram data.c
data1
```

Out[4]:

	Impressions	From Home	From Hashtags	From Explore	From Other	Saves	Comments	Shares	Likes	Profile Visits
0	3920	2586	1028	619	56	98	9	5	162	35
1	5394	2727	1838	1174	78	194	7	14	224	48
2	4021	2085	1188	0	533	41	11	1	131	62
3	4528	2700	621	932	73	172	10	7	213	23
4	2518	1704	255	279	37	96	5	4	123	8
...	...	...	...	...	...	...	...	...	...	...
114	13700	5185	3041	5352	77	573	2	38	373	73
115	5731	1923	1368	2266	65	135	4	1	148	20
116	4139	1133	1538	1367	33	36	0	1	92	34
117	32695	11815	3147	17414	170	1095	2	75	549	148

	Impressions	From Home	From Hashtags	From Explore	From Other	Saves	Comments	Shares	Likes	Profile Visits
118	36919	13473	4176	16444	2547	653	5	26	443	611

119 rows × 13 columns

In [5]:
```
#to display top 5 rows
data=data1.head()
data
```

Out[5]:

	Impressions	From Home	From Hashtags	From Explore	From Other	Saves	Comments	Shares	Likes	Profile Visits	Follo
0	3920	2586	1028	619	56	98	9	5	162	35	
1	5394	2727	1838	1174	78	194	7	14	224	48	
2	4021	2085	1188	0	533	41	11	1	131	62	
3	4528	2700	621	932	73	172	10	7	213	23	
4	2518	1704	255	279	37	96	5	4	123	8	

DATA CLEANING AND PREPROCESSING

In [6]:
```
data.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 5 entries, 0 to 4
Data columns (total 13 columns):
 #   Column          Non-Null Count  Dtype 
---  ------          --------------  ----- 
 0   Impressions     5 non-null      int64 
 1   From Home       5 non-null      int64 
 2   From Hashtags   5 non-null      int64 
 3   From Explore    5 non-null      int64 
 4   From Other      5 non-null      int64 
 5   Saves           5 non-null      int64 
 6   Comments        5 non-null      int64 
 7   Shares          5 non-null      int64 
 8   Likes           5 non-null      int64 
 9   Profile Visits  5 non-null      int64 
 10  Follows         5 non-null      int64 
 11  Caption         5 non-null      object
 12  Hashtags        5 non-null      object
dtypes: int64(11), object(2)
memory usage: 648.0+ bytes
```

In [7]:
```
#to display summary of statistics
data.describe()
```

Out[7]:

ns	From Home	From Hashtags	From Explore	From Other	Saves	Comments	Shares	Like
00	5.000000	5.000000	5.000000	5.000000	5.000000	5.000000	5.000000	5.00000
00	2360.400000	986.000000	600.800000	155.400000	120.200000	8.400000	6.200000	170.60000
28	449.256386	599.178187	475.157553	211.696245	62.210932	2.408319	4.868265	46.25256
00	1704.000000	255.000000	0.000000	37.000000	41.000000	5.000000	1.000000	123.00000
00	2085.000000	621.000000	279.000000	56.000000	96.000000	7.000000	4.000000	131.00000
00	2586.000000	1028.000000	619.000000	73.000000	98.000000	9.000000	5.000000	162.00000
00	2700.000000	1188.000000	932.000000	78.000000	172.000000	10.000000	7.000000	213.00000
00	2727.000000	1838.000000	1174.000000	533.000000	194.000000	11.000000	14.000000	224.00000

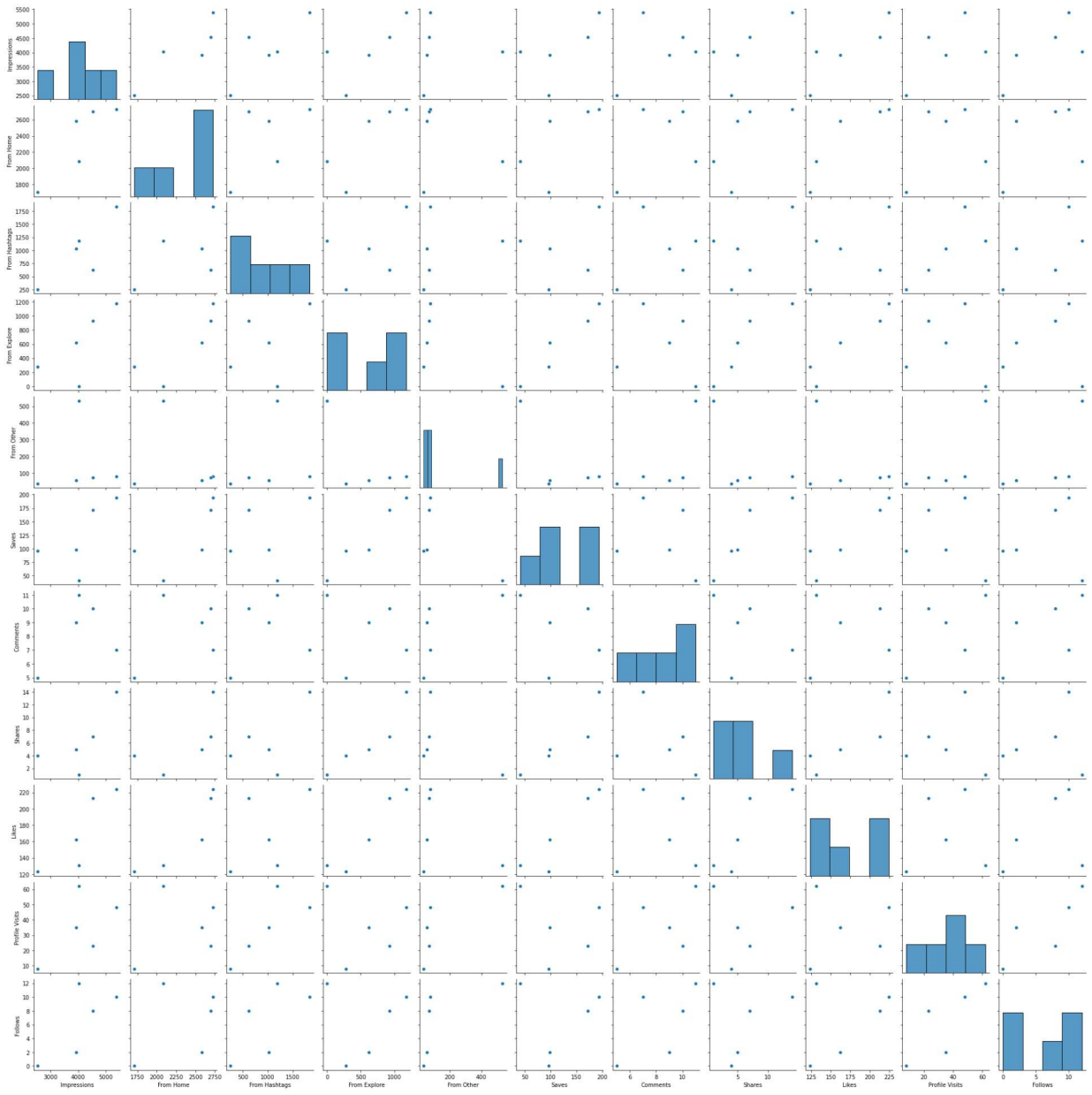
In [8]:
```
#to display the column heading
data.columns
```

Out[8]:
```
Index(['Impressions', 'From Home', 'From Hashtags', 'From Explore',
       'From Other', 'Saves', 'Comments', 'Shares', 'Likes', 'Profile Visits',
       'Follows', 'Caption', 'Hashtags'],
      dtype='object')
```

EDA and DATA VISUALIZATION

In [9]:
```
sns.pairplot(data)
```

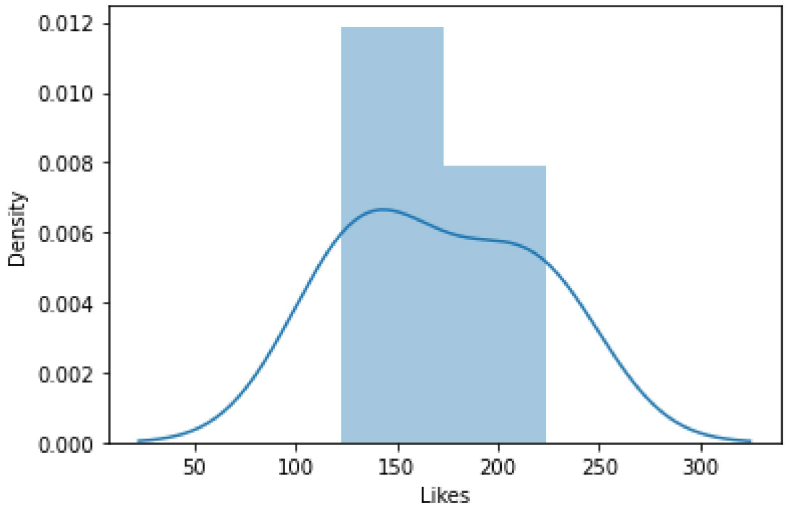
Out[9]:
```
<seaborn.axisgrid.PairGrid at 0x14fc41196d0>
```



In [19]:
```
sns.distplot(data['Likes'])
```

```
C:\ProgramData\Anaconda3\lib\site-packages\seaborn\distributions.py:2557: Futur
eWarning: `distplot` is a deprecated function and will be removed in a future v
ersion. Please adapt your code to use either `displot` (a figure-level function
with similar flexibility) or `histplot` (an axes-level function for histogram
s).
  warnings.warn(msg, FutureWarning)
```

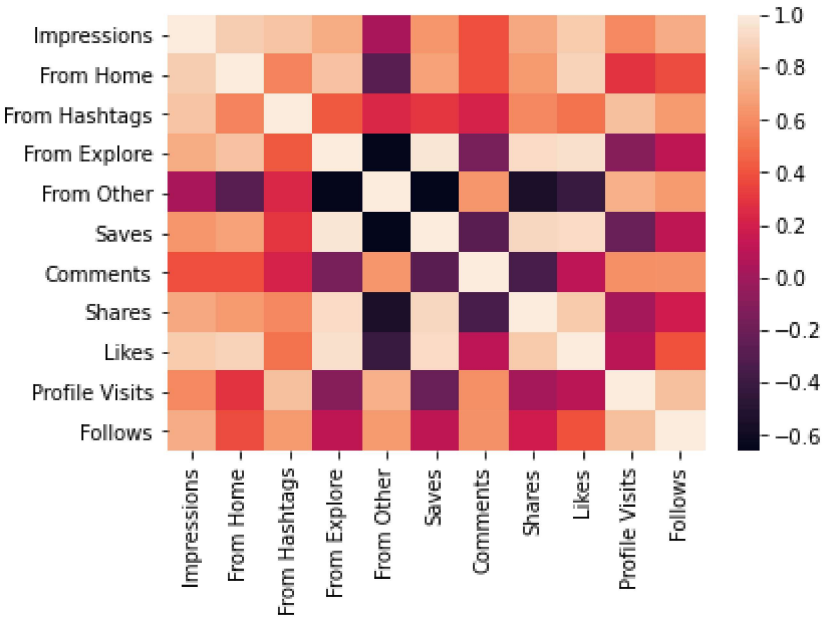
Out[19]: <AxesSubplot:xlabel='Likes', ylabel='Density'>



In [20]:
```
df=data[['Impressions', 'From Home', 'From Hashtags', 'From Explore',
       'From Other', 'Saves', 'Comments', 'Shares', 'Likes', 'Profile Visits',
       'Follows', 'Caption', 'Hashtags']]
```

In [21]:
```
sns.heatmap(df.corr())
```

Out[21]: <AxesSubplot:>



TRAINING MODEL

In [22]:
```
om Explore','From Other', 'Saves', 'Comments', 'Shares', 'Likes', 'Profile Visits
```

In [23]:
```
#to split my dataset into trainning and test
from sklearn.model_selection import train_test_split
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.3)
```

In [24]:
```
from sklearn.linear_model import LinearRegression

lr=LinearRegression()
lr.fit(x_train,y_train)
```

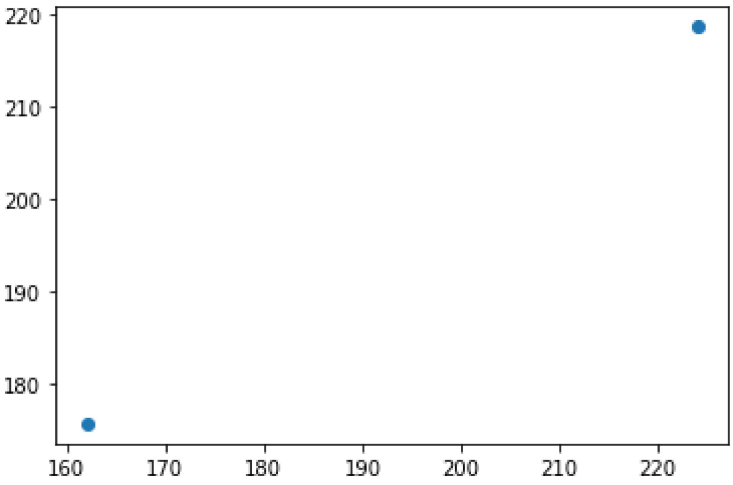
Out[24]: LinearRegression()

In [25]:
```
#to find intercept
print(lr.intercept_)
```

```
[13.95301892]
```

In [26]:
```
prediction = lr.predict(x_test)
plt.scatter(y_test,prediction)
```

Out[26]:
```
<matplotlib.collections.PathCollection at 0x14fcb76b880>
```



In [27]:
```
print(lr.score(x_test,y_test))
```

```
0.8888883048292364
```

RIDGE AND LASSO REGRESSION

In [28]:
```
from sklearn.linear_model import Ridge,Lasso
```

In [29]:
```
rr=Ridge(alpha=10)
rr.fit(x_train,y_train)
```

Out[29]:
```
Ridge(alpha=10)
```

In [30]:
```
rr.score(x_test,y_test)
```

Out[30]:
```
0.8888888663680802
```

In [33]:
```
la=Lasso(alpha=10)
la.fit(x_train,y_train)
```

```
C:\ProgramData\Anaconda3\lib\site-packages\sklearn\linear_model\_coordinate_des
cent.py:530: ConvergenceWarning: Objective did not converge. You might want to
increase the number of iterations. Duality gap: 1.1507251193875405, tolerance:
0.49626666666666663
  model = cd_fast.enet_coordinate_descent(
```

Out[33]:
```
Lasso(alpha=10)
```

In [34]:
```
la.score(x_test,y_test)
```

Out[34]:
```
0.9001051003799907
```

In [ ]:
```

```