import libraries

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

import dataset

```
In [18]: data=pd.read_csv(r"C:\Users\user\Downloads\5_Instagram data.csv")
         data
```

Out[18]:

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

119 rows × 13 columns

mean

```
In [19]: print(data.mean())
```

```
Impressions       5703.991597
From Home         2475.789916
From Hashtags     1887.512605
From Explore      1078.100840
From Other         171.092437
Saves              153.310924
Comments             6.663866
Shares               9.361345
Likes              173.781513
Profile Visits      50.621849
Follows             20.756303
dtype: float64
```

median

```
In [20]: print(data.median())
```

```
Impressions       4289.0
From Home         2207.0
From Hashtags     1278.0
From Explore       326.0
From Other          74.0
Saves              109.0
Comments             6.0
Shares               6.0
Likes              151.0
Profile Visits      23.0
Follows              8.0
dtype: float64
```

mode

In [21]: `print(data.describe())`

```
          Impressions     From Home   From Hashtags   From Explore    From Other
\
count      119.000000    119.000000     119.000000     119.000000    119.000000
mean      5703.991597   2475.789916    1887.512605    1078.100840    171.092437
std       4843.780105   1489.386348    1884.361443    2613.026132    289.431031
min       1941.000000   1133.000000     116.000000       0.000000      9.000000
25%       3467.000000   1945.000000     726.000000     157.500000     38.000000
50%       4289.000000   2207.000000    1278.000000     326.000000     74.000000
75%       6138.000000   2602.500000    2363.500000     689.500000    196.000000
max      36919.000000  13473.000000   11817.000000   17414.000000   2547.000000

                Saves      Comments        Shares         Likes   Profile Visits  \
count      119.000000    119.000000    119.000000    119.000000       119.000000
mean       153.310924      6.663866      9.361345    173.781513        50.621849
std        156.317731      3.544576     10.089205     82.378947        87.088402
min         22.000000      0.000000      0.000000     72.000000         4.000000
25%         65.000000      4.000000      3.000000    121.500000        15.000000
50%        109.000000      6.000000      6.000000    151.000000        23.000000
75%        169.000000      8.000000     13.500000    204.000000        42.000000
max       1095.000000     19.000000     75.000000    549.000000       611.000000

            Follows
count    119.000000
mean      20.756303
std       40.921580
min        0.000000
25%        4.000000
50%        8.000000
75%       18.000000
max      260.000000
```

In [22]:
```python
df = pd.DataFrame(data[["Saves","Comments"]])
df
```

Out[22]:

	Saves	Comments
0	98	9
1	194	7
2	41	11
3	172	10
4	96	5
...	...	...
114	573	2
115	135	4
116	36	0
117	1095	2
118	653	5

119 rows × 2 columns

In [23]:
```python
print(df.mode())
```

```
   Saves  Comments
0     40       6.0
1    135       NaN
2    144       NaN
```

In [24]:
```python
print(df.mean())
```

```
Saves       153.310924
Comments      6.663866
dtype: float64
```

In [25]:
```python
print(df.median())
```

```
Saves       109.0
Comments      6.0
dtype: float64
```

In [26]:
```python
print(df.describe())
```

```
            Saves    Comments
count  119.000000  119.000000
mean   153.310924    6.663866
std    156.317731    3.544576
min     22.000000    0.000000
25%     65.000000    4.000000
50%    109.000000    6.000000
75%    169.000000    8.000000
max   1095.000000   19.000000
```

In [27]: `print(df.sum())`

```
Saves       18244
Comments      793
dtype: int64
```

In [28]: `print(df.cumsum())`

```
      Saves   Comments
0        98          9
1       292         16
2       333         27
3       505         37
4       601         42
..      ...        ...
114   16325        782
115   16460        786
116   16496        786
117   17591        788
118   18244        793

[119 rows x 2 columns]
```

In [29]: `print(df.min())`

```
Saves        22
Comments      0
dtype: int64
```

In [30]: `print(df.max())`

```
Saves       1095
Comments      19
dtype: int64
```

In [31]: `print(df.count())`

```
Saves       119
Comments    119
dtype: int64
```

In [32]: `from numpy import cov`

In [33]: `print(cov(df))`

```
[[3.960500e+03 8.321500e+03 1.335000e+03 ... 1.602000e+03 4.863850e+04
  2.883600e+04]
 [8.321500e+03 1.748450e+04 2.805000e+03 ... 3.366000e+03 1.021955e+05
  6.058800e+04]
 [1.335000e+03 2.805000e+03 4.500000e+02 ... 5.400000e+02 1.639500e+04
  9.720000e+03]
 ...
 [1.602000e+03 3.366000e+03 5.400000e+02 ... 6.480000e+02 1.967400e+04
  1.166400e+04]
 [4.863850e+04 1.021955e+05 1.639500e+04 ... 1.967400e+04 5.973245e+05
  3.541320e+05]
 [2.883600e+04 6.058800e+04 9.720000e+03 ... 1.166400e+04 3.541320e+05
  2.099520e+05]]
```

In [36]: `from scipy.stats import pearsonr`

In [34]:
```python
df1 = df["Saves"]
df2 = df["Comments"]
df1
df2
```

Out[34]:
```
0        9
1        7
2       11
3       10
4        5
        ..
114      2
115      4
116      0
117      2
118      5
Name: Comments, Length: 119, dtype: int64
```

In [37]: `print(pearsonr(df1,df2))`

```
(-0.02691226370756101, 0.7714093067398262)
```

In [38]: `from scipy.stats import spearmanr`

In [39]: `print(spearmanr(df1,df2))`

```
SpearmanrResult(correlation=0.18289066665208123, pvalue=0.04649539344941905)
```

In [ ]: