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

In [2]:
```
data=pd.read_csv(r"c:\Users\user\Downloads\Instagram.csv")
data
```

Out[2]:

	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

Find mean, median, mode and describe

In [3]:
```
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
```

In [4]:
```
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
```

In [5]:
```
print(data.mode())
```

	Impressions	From Home	From Hashtags	From Explore	From Other	Saves
0	5394.0	1975.0	116	45.0	34.0	40.0
1	NaN	NaN	201	84.0	NaN	135.0
2	NaN	NaN	278	NaN	NaN	144.0
3	NaN	NaN	362	NaN	NaN	NaN
4	NaN	NaN	411	NaN	NaN	NaN
5	NaN	NaN	583	NaN	NaN	NaN
6	NaN	NaN	655	NaN	NaN	NaN
7	NaN	NaN	707	NaN	NaN	NaN
8	NaN	NaN	771	NaN	NaN	NaN
9	NaN	NaN	794	NaN	NaN	NaN
10	NaN	NaN	1248	NaN	NaN	NaN
11	NaN	NaN	1260	NaN	NaN	NaN
12	NaN	NaN	1278	NaN	NaN	NaN
13	NaN	NaN	1693	NaN	NaN	NaN
14	NaN	NaN	1938	NaN	NaN	NaN
15	NaN	NaN	2351	NaN	NaN	NaN
16	NaN	NaN	2975	NaN	NaN	NaN
17	NaN	NaN	3450	NaN	NaN	NaN
18	NaN	NaN	3551	NaN	NaN	NaN

	Comments	Shares	Likes	Profile Visits	Follows
0	6.0	3.0	114.0	19.0	2.0
1	NaN	NaN	151.0	21.0	NaN
2	NaN	NaN	NaN	NaN	NaN
3	NaN	NaN	NaN	NaN	NaN
4	NaN	NaN	NaN	NaN	NaN
5	NaN	NaN	NaN	NaN	NaN
6	NaN	NaN	NaN	NaN	NaN
7	NaN	NaN	NaN	NaN	NaN
8	NaN	NaN	NaN	NaN	NaN
9	NaN	NaN	NaN	NaN	NaN
10	NaN	NaN	NaN	NaN	NaN
11	NaN	NaN	NaN	NaN	NaN
12	NaN	NaN	NaN	NaN	NaN
13	NaN	NaN	NaN	NaN	NaN
14	NaN	NaN	NaN	NaN	NaN
15	NaN	NaN	NaN	NaN	NaN
16	NaN	NaN	NaN	NaN	NaN
17	NaN	NaN	NaN	NaN	NaN
18	NaN	NaN	NaN	NaN	NaN

	Caption
0	Here are some of the best data science project...
1	Here are some of the best websites that you ca...
2	NaN
3	NaN
4	NaN
5	NaN
6	NaN
7	NaN
8	NaN
9	NaN
10	NaN
11	NaN
12	NaN
13	NaN

```
14                                                    NaN
15                                                    NaN
16                                                    NaN
17                                                    NaN
18                                                    NaN

                                                  Hashtags
0   #data#datascience#dataanalysis#dataanalytic...
1                                                     NaN
2                                                     NaN
3                                                     NaN
4                                                     NaN
5                                                     NaN
6                                                     NaN
7                                                     NaN
8                                                     NaN
9                                                     NaN
10                                                    NaN
11                                                    NaN
12                                                    NaN
13                                                    NaN
14                                                    NaN
15                                                    NaN
16                                                    NaN
17                                                    NaN
18                                                    NaN
```

In [6]:
```
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
```

Find sum(), cumsum(), count, min and max values

In [7]:
```
print(data.sum())
```

```
Impressions                                                    678775
From Home                                                      294619
From Hashtags                                                  224614
From Explore                                                   128294
From Other                                                      20360
Saves                                                           18244
Comments                                                          793
Shares                                                           1114
Likes                                                           20680
Profile Visits                                                   6024
Follows                                                          2470
Caption           Here are some of the most important data visua...
Hashtags          #finance#money#business#investing#investme...
dtype: object
```

In [8]:
```
print(data.count())
```

```
Impressions       119
From Home         119
From Hashtags     119
From Explore      119
From Other        119
Saves             119
Comments          119
Shares            119
Likes             119
Profile Visits    119
Follows           119
Caption           119
Hashtags          119
dtype: int64
```

In [9]:
```
print(data.max())
```

```
Impressions                                                 36919
From Home                                                   13473
From Hashtags                                               11817
From Explore                                                17414
From Other                                                   2547
Saves                                                        1095
Comments                                                       19
Shares                                                         75
Likes                                                         549
Profile Visits                                                611
Follows                                                       260
Caption           You must have seen the news divided into categ...
Hashtags          #timeseries#time#statistics#datascience#bi...
dtype: object
```

In [10]:
```
print(data.min())
```

```
Impressions                                                  1941
From Home                                                    1133
From Hashtags                                                 116
From Explore                                                    0
From Other                                                      9
Saves                                                          22
Comments                                                        0
Shares                                                          0
Likes                                                          72
Profile Visits                                                  4
Follows                                                         0
Caption           170 Python Projects with Source Code solved an...
Hashtags          #career#job#jobs#jobsearch#education#busi...
dtype: object
```

In [11]:
```
print(data.cumsum())
```

```
     Impressions  From Home  From Hashtags  From Explore  From Other  Saves
\
0           3920       2586           1028           619          56     98
1           9314       5313           2866          1793         134    292
2          13335       7398           4054          1793         667    333
3          17863      10098           4675          2725         740    505
4          20381      11802           4930          3004         777    601
..           ...        ...            ...           ...         ...    ...
114       599291     266275         214385         90803       17545  16325
115       605022     268198         215753         93069       17610  16460
116       609161     269331         217291         94436       17643  16496
117       641856     281146         220438        111850       17813  17591
118       678775     294619         224614        128294       20360  18244

     Comments  Shares  Likes  Profile Visits  Follows  \
0           9       5    162              35        2
1          16      19    386              83       12
2          27      20    517             145       24
3          37      27    730             168       32
```

Find covariance and correlation (spearman and pearsons)

In [13]:
```
from numpy import cov
from numpy import mean,std
from numpy.random import randn,seed
from matplotlib import pyplot
```

In [14]:
```
print(mean(data.Impressions),std(data.Impressions))
print(mean(data.Saves),std(data.Saves))
```

```
5703.991596638655 4823.3851505818775
153.3109243697479 155.65954812562882
```

In [17]:
```
print(cov(data.Impressions,data.Saves))
```

```
[[23462205.70331862   590009.64670275]
 [  590009.64670275    24435.23301524]]
```

In [18]:
```
from scipy.stats import pearsonr
print(pearsonr(data.Impressions,data.Saves))
```

```
(0.7792314114268593, 1.7054972210225007e-25)
```

In [19]:
```
from scipy.stats import spearmanr
print(spearmanr(data.Impressions,data.Saves))
```

```
SpearmanrResult(correlation=0.6878311983258842, pvalue=5.5717923331654616e-1
8)
```

In [ ]: