

SUMESH R - 20104169

Basic Analysis using NumPy and Pandas

Import Libraries

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

```
In [2]: import numpy as np
```

Import Dataset

```
In [3]: data = pd.read_csv("5_Instagram data.csv")
```

```
In [4]: display(data)
```

	Impressions	From Home	From Hashtags	From Explore	From Other	Saves	Comments	Shares	Likes	Profile Visits	Follows
0	3920	2586	1028	619	56	98	9	5	162	35	2
1	5394	2727	1838	1174	78	194	7	14	224	48	10
2	4021	2085	1188	0	533	41	11	1	131	62	12
3	4528	2700	621	932	73	172	10	7	213	23	8
4	2518	1704	255	279	37	96	5	4	123	8	0

	Impressions	From Home	From Hashtags	From Explore	From Other	Saves	Comments	Shares	Likes	Profile Visits	Follows
...
114	13700	5185	3041	5352	77	573	2	38	373	73	80
115	5731	1923	1368	2266	65	135	4	1	148	20	18
116	4139	1133	1538	1367	33	36	0	1	92	34	10
117	32695	11815	3147	17414	170	1095	2	75	549	148	214
118	36919	13473	4176	16444	2547	653	5	26	443	611	228

119 rows × 13 columns

To display top 10 rows

In [5]:

```
data.head(10)
```

Out[5]:

	Impressions	From Home	From Hashtags	From Explore	From Other	Saves	Comments	Shares	Likes	Profile Visits	Follows
0	3920	2586	1028	619	56	98	9	5	162	35	2
1	5394	2727	1838	1174	78	194	7	14	224	48	10

	Impressions	From Home	From Hashtags	From Explore	From Other	Saves	Comments	Shares	Likes	Profile Visits	Follows
2	4021	2085	1188	0	533	41	11	1	131	62	12
3	4528	2700	621	932	73	172	10	7	213	23	8
4	2518	1704	255	279	37	96	5	4	123	8	0
5	3884	2046	1214	329	43	74	7	10	144	9	2
6	2621	1543	599	333	25	22	5	1	76	26	0
7	3541	2071	628	500	60	135	4	9	124	12	6
8	3749	2384	857	248	49	155	6	8	159	36	4
9	4115	2609	1104	178	46	122	6	3	191	31	6

to display last 5 rows

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

Out[6]:

	Impressions	From Home	From Hashtags	From Explore	From Other	Saves	Comments	Shares	Likes	Profile Visits	Follows
114	13700	5185	3041	5352	77	573	2	38	373	73	80
115	5731	1923	1368	2266	65	135	4	1	148	20	18
116	4139	1133	1538	1367	33	36	0	1	92	34	10
117	32695	11815	3147	17414	170	1095	2	75	549	148	214
118	36919	13473	4176	16444	2547	653	5	26	443	611	228

statistical summary

In [7]:

data.describe()

Out[7]:

	Impressions	From Home	From Hashtags	From Explore	From Other	Saves	Comments	
count	119.000000	119.000000	119.000000	119.000000	119.000000	119.000000	119.000000	119.000000
mean	5703.991597	2475.789916	1887.512605	1078.100840	171.092437	153.310924	6.663866	
std	4843.780105	1489.386348	1884.361443	2613.026132	289.431031	156.317731	3.544576	
min	1941.000000	1133.000000	116.000000	0.000000	9.000000	22.000000	0.000000	
25%	3467.000000	1945.000000	726.000000	157.500000	38.000000	65.000000	4.000000	

	Impressions	From Home	From Hashtags	From Explore	From Other	Saves	Comments
50%	4289.000000	2207.000000	1278.000000	326.000000	74.000000	109.000000	6.000000
75%	6138.000000	2602.500000	2363.500000	689.500000	196.000000	169.000000	8.000000
max	36919.000000	13473.000000	11817.000000	17414.000000	2547.000000	1095.000000	19.000000

To print number of elements

In [8]: `data.size`

Out[8]: 1547

to print number of row and cols

In [9]: `data.shape`

Out[9]: (119, 13)

to find missing values

In [10]: `data.isna()`

	Impressions	From Home	From Hashtags	From Explore	From Other	Saves	Comments	Shares	Likes	Profile Visits	Follows
0	False	False	False	False	False	False	False	False	False	False	False
1	False	False	False	False	False	False	False	False	False	False	False
2	False	False	False	False	False	False	False	False	False	False	False
3	False	False	False	False	False	False	False	False	False	False	False
4	False	False	False	False	False	False	False	False	False	False	False
...
114	False	False	False	False	False	False	False	False	False	False	False
115	False	False	False	False	False	False	False	False	False	False	False
116	False	False	False	False	False	False	False	False	False	False	False
117	False	False	False	False	False	False	False	False	False	False	False
118	False	False	False	False	False	False	False	False	False	False	False

119 rows × 13 columns

fill null values with a constant

In [11]:

```
data.fillna(5)
```

Out[11]:

	Impressions	From Home	From Hashtags	From Explore	From Other	Saves	Comments	Shares	Likes	Profile Visits	Follows
0	3920	2586	1028	619	56	98	9	5	162	35	2
1	5394	2727	1838	1174	78	194	7	14	224	48	10
2	4021	2085	1188	0	533	41	11	1	131	62	12
3	4528	2700	621	932	73	172	10	7	213	23	8
4	2518	1704	255	279	37	96	5	4	123	8	0
...
114	13700	5185	3041	5352	77	573	2	38	373	73	80
115	5731	1923	1368	2266	65	135	4	1	148	20	18
116	4139	1133	1538	1367	33	36	0	1	92	34	10

	Impressions	From Home	From Hashtags	From Explore	From Other	Saves	Comments	Shares	Likes	Profile Visits	Follows
117	32695	11815	3147	17414	170	1095	2	75	549	148	214
118	36919	13473	4176	16444	2547	653	5	26	443	611	228

119 rows × 13 columns

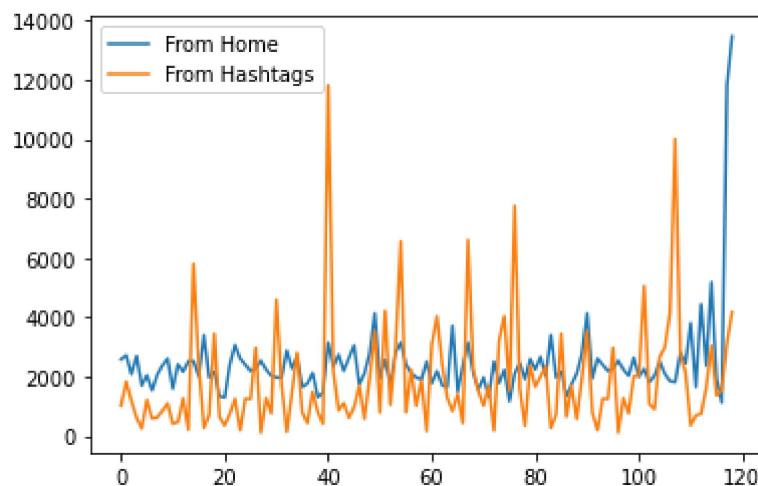
to select a particular columns

```
In [12]: df=pd.DataFrame(data[['From Home','From Hashtags']])
import matplotlib.pyplot as plt
```

line plot

```
In [13]: df.plot.line()
```

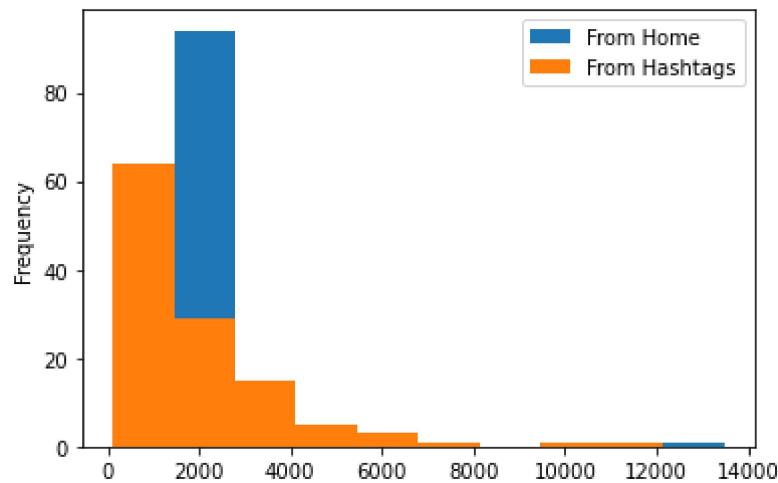
```
Out[13]: <AxesSubplot:>
```



histogram

```
In [14]: df.plot.hist()
```

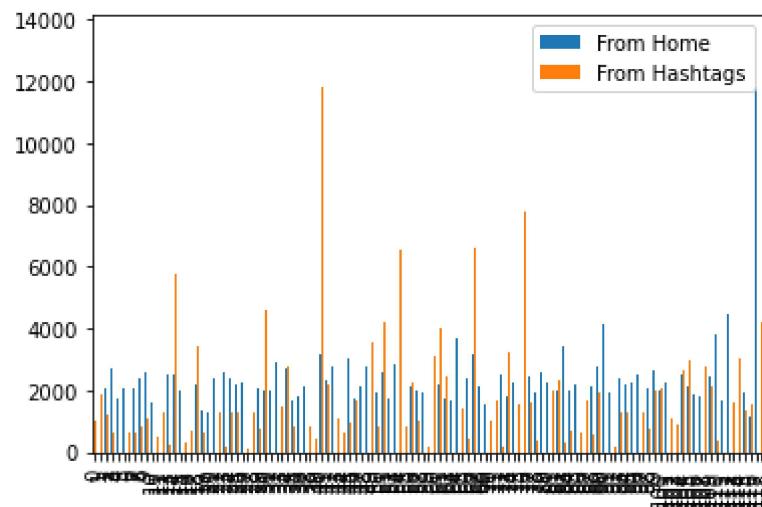
```
Out[14]: <AxesSubplot:ylabel='Frequency'>
```



bar chart

```
In [15]: df.plot.bar()
```

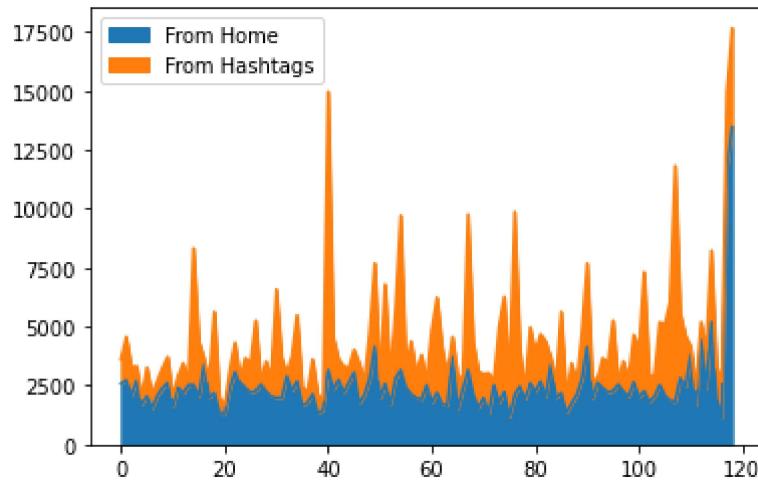
```
Out[15]: <AxesSubplot:>
```



area plot

```
In [16]: df.plot.area()
```

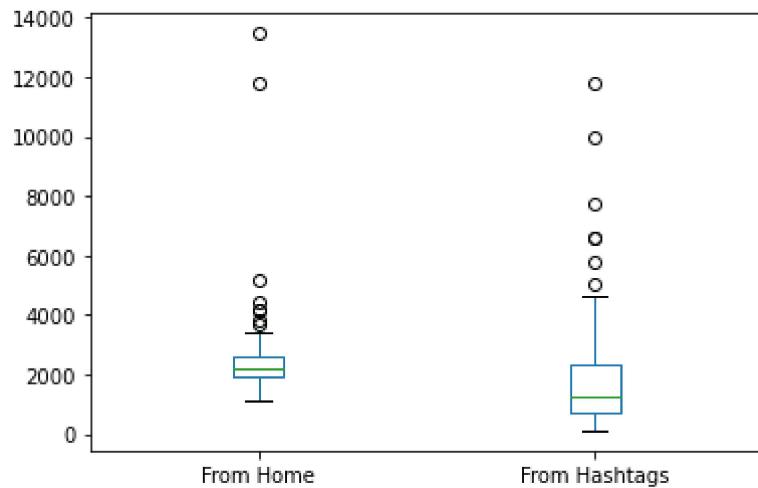
```
Out[16]: <AxesSubplot:>
```



box plot

```
In [17]: df.plot.box()
```

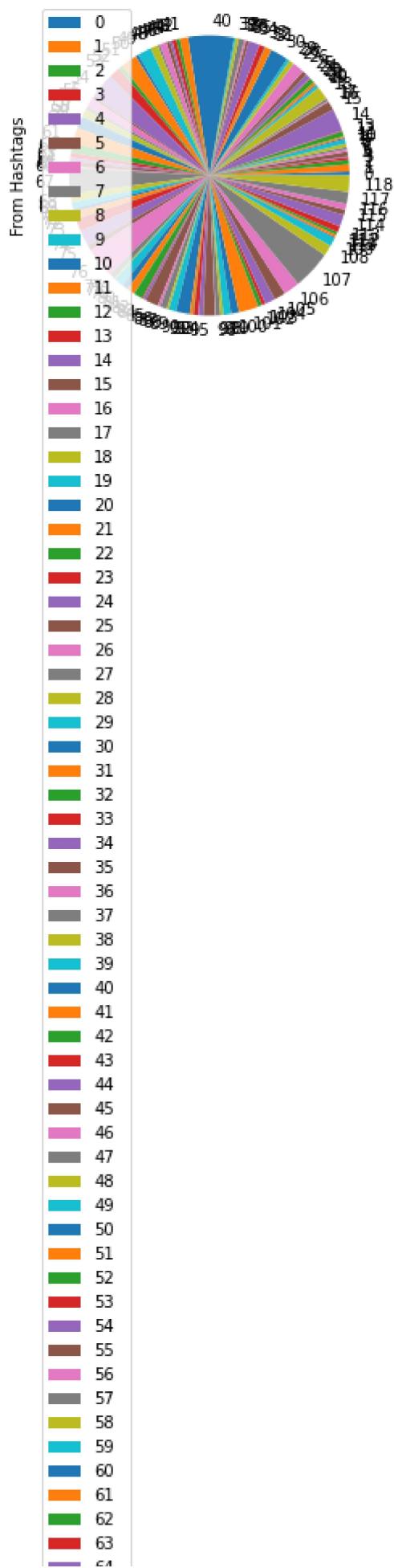
```
Out[17]: <AxesSubplot:>
```

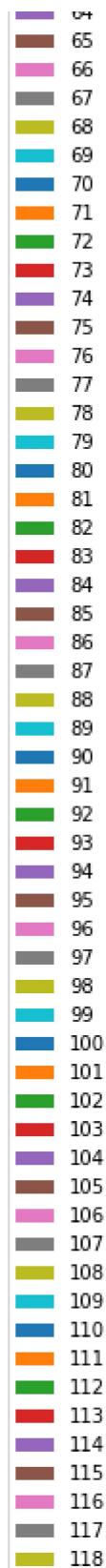


pie plot

```
In [18]: df.plot.pie(y="From Hashtags")
```

```
Out[18]: <AxesSubplot:ylabel='From Hashtags'>
```





scatter plot

In [19]:

```
df.plot.scatter(x="From Home",y="From Hashtags")
```

Out[19]: <AxesSubplot:xlabel='From Home', ylabel='From Hashtags'>

