In [7]:

```
import pandas as pd
import numpy as np
```

In [8]:

```
df=pd.read_csv('../a1/dataset_Facebook.csv',sep=";")
df
```

Out[8]:

	Page total likes	Type	Category	Post Month	Post Weekday	Post Hour	Paid	Lifetime Post Total Reach	Lifetime Post Total Impressions	Lifetime Engaged Users
0	139441	Photo	2	12	4	3	0.0	2752	5091	178
1	139441	Status	2	12	3	10	0.0	10460	19057	1457
2	139441	Photo	3	12	3	3	0.0	2413	4373	177
3	139441	Photo	2	12	2	10	1.0	50128	87991	2211
4	139441	Photo	2	12	2	3	0.0	7244	13594	671
...	...	...	...	...	...	...	...	...	...	...
495	85093	Photo	3	1	7	2	0.0	4684	7536	733
496	81370	Photo	2	1	5	8	0.0	3480	6229	537
497	81370	Photo	1	1	5	2	0.0	3778	7216	625
498	81370	Photo	3	1	4	11	0.0	4156	7564	626
499	81370	Photo	2	1	4	4	NaN	4188	7292	564

500 rows × 19 columns

In [9]:

```
df.describe()
```

Out[9]:

	Page total likes	Category	Post Month	Post Weekday	Post Hour	Paid	Lifetime P Total Re
count	500.000000	500.000000	500.000000	500.000000	500.000000	499.000000	500.00
mean	123194.176000	1.880000	7.038000	4.150000	7.840000	0.278557	13903.36
std	16272.813214	0.852675	3.307936	2.030701	4.368589	0.448739	22740.78
min	81370.000000	1.000000	1.000000	1.000000	1.000000	0.000000	238.00
25%	112676.000000	1.000000	4.000000	2.000000	3.000000	0.000000	3315.00
50%	129600.000000	2.000000	7.000000	4.000000	9.000000	0.000000	5281.00
75%	136393.000000	3.000000	10.000000	6.000000	11.000000	1.000000	13168.00
max	139441.000000	3.000000	12.000000	7.000000	23.000000	1.000000	180480.00

In [10]:

```
df.shape
```

Out[10]:

```
(500, 19)
```

In [12]:

```
df1=df[['Page total likes','Category','Post Month','Post Weekday']].loc[0:15]
df1
```

Out[12]:

	Page total likes	Category	Post Month	Post Weekday
0	139441	2	12	4
1	139441	2	12	3
2	139441	3	12	3
3	139441	2	12	2
4	139441	2	12	2
5	139441	2	12	1
6	139441	3	12	1
7	139441	3	12	7
8	139441	2	12	7
9	139441	3	12	6
10	139441	2	12	5
11	139441	2	12	5
12	139441	2	12	5
13	139441	2	12	5
14	138414	2	12	4
15	138414	2	12	3

In [13]:

```
df2=df[['Post Hour','Paid','Lifetime Post Total Reach']].loc[0:15]
df2
```

Out[13]:

	Post Hour	Paid	Lifetime Post Total Reach
0	3	0.0	2752
1	10	0.0	10460
2	3	0.0	2413
3	10	1.0	50128
4	3	0.0	7244
5	9	0.0	10472
6	3	1.0	11692
7	9	1.0	13720
8	3	0.0	11844
9	10	0.0	4694
10	10	0.0	21744
11	10	0.0	3112
12	10	0.0	2847
13	3	0.0	2549
14	5	1.0	22784
15	10	0.0	10060

In [14]:

```
merge=pd.concat([df1,df2])
merge
```

Out[14]:

	Page total likes	Category	Post Month	Post Weekday	Post Hour	Paid	Lifetime Post Total Reach
0	139441.0	2.0	12.0	4.0	NaN	NaN	NaN
1	139441.0	2.0	12.0	3.0	NaN	NaN	NaN
2	139441.0	3.0	12.0	3.0	NaN	NaN	NaN
3	139441.0	2.0	12.0	2.0	NaN	NaN	NaN
4	139441.0	2.0	12.0	2.0	NaN	NaN	NaN
5	139441.0	2.0	12.0	1.0	NaN	NaN	NaN
6	139441.0	3.0	12.0	1.0	NaN	NaN	NaN
7	139441.0	3.0	12.0	7.0	NaN	NaN	NaN
8	139441.0	2.0	12.0	7.0	NaN	NaN	NaN
9	139441.0	3.0	12.0	6.0	NaN	NaN	NaN
10	139441.0	2.0	12.0	5.0	NaN	NaN	NaN
11	139441.0	2.0	12.0	5.0	NaN	NaN	NaN
12	139441.0	2.0	12.0	5.0	NaN	NaN	NaN
13	139441.0	2.0	12.0	5.0	NaN	NaN	NaN
14	138414.0	2.0	12.0	4.0	NaN	NaN	NaN
15	138414.0	2.0	12.0	3.0	NaN	NaN	NaN
0	NaN	NaN	NaN	NaN	3.0	0.0	2752.0
1	NaN	NaN	NaN	NaN	10.0	0.0	10460.0
2	NaN	NaN	NaN	NaN	3.0	0.0	2413.0
3	NaN	NaN	NaN	NaN	10.0	1.0	50128.0
4	NaN	NaN	NaN	NaN	3.0	0.0	7244.0
5	NaN	NaN	NaN	NaN	9.0	0.0	10472.0
6	NaN	NaN	NaN	NaN	3.0	1.0	11692.0
7	NaN	NaN	NaN	NaN	9.0	1.0	13720.0
8	NaN	NaN	NaN	NaN	3.0	0.0	11844.0
9	NaN	NaN	NaN	NaN	10.0	0.0	4694.0
10	NaN	NaN	NaN	NaN	10.0	0.0	21744.0
11	NaN	NaN	NaN	NaN	10.0	0.0	3112.0
12	NaN	NaN	NaN	NaN	10.0	0.0	2847.0
13	NaN	NaN	NaN	NaN	3.0	0.0	2549.0
14	NaN	NaN	NaN	NaN	5.0	1.0	22784.0
15	NaN	NaN	NaN	NaN	10.0	0.0	10060.0

In [15]:

```
sortdata=df.sort_values('Category',ascending=False)
sortdata
```

Out[15]:

	Page total likes	Type	Category	Post Month	Post Weekday	Post Hour	Paid	Lifetime Post Total Reach	Lifetime Post Total Impressions	Lifetime Engaged Users
108	136736	Photo	3	10	7	9	0.0	2426	4469	320
322	123047	Photo	3	6	2	5	1.0	3662	6476	560
331	119198	Photo	3	5	3	5	0.0	4344	8025	692
330	120050	Photo	3	5	3	12	0.0	21248	34095	1049
329	120050	Photo	3	5	4	4	1.0	4032	7278	684
...	...	...	...	...	...	...	...	...	...	...
111	136736	Photo	1	10	6	8	0.0	1261	2158	37
110	136736	Photo	1	10	6	10	0.0	1673	3655	338
339	117764	Photo	1	5	4	10	0.0	18056	32576	1062
105	137020	Photo	1	10	2	4	0.0	70144	111745	3216
250	129600	Photo	1	7	7	6	1.0	5848	9068	622

500 rows × 19 columns

In [16]:

```
trans=df.transpose()
trans
```

Out[16]:

	0	1	2	3	4	5	6	7	8	
Page total likes	139441	139441	139441	139441	139441	139441	139441	139441	139441	13
Type	Photo	Status	Photo	Photo	Photo	Status	Photo	Photo	Status	I
Category	2	2	3	2	2	2	3	3	2	
Post Month	12	12	12	12	12	12	12	12	12	
Post Weekday	4	3	3	2	2	1	1	7	7	
Post Hour	3	10	3	10	3	9	3	9	3	
Paid	0.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	
Lifetime Post Total Reach	2752	10460	2413	50128	7244	10472	11692	13720	11844	
Lifetime Post Total Impressions	5091	19057	4373	87991	13594	20849	19479	24137	22538	
Lifetime Engaged Users	178	1457	177	2211	671	1191	481	537	1530	
Lifetime Post Consumers	109	1361	113	790	410	1073	265	232	1407	
Lifetime Post Consumptions	159	1674	154	1119	580	1389	364	305	1692	
Lifetime Post Impressions by people who have liked your Page	3078	11710	2812	61027	6228	16034	15432	19728	15220	
Lifetime Post reach by people who like your Page	1640	6112	1503	32048	3200	7852	9328	11056	7912	
Lifetime People who have liked your Page and engaged with your post	119	1108	132	1386	396	1016	379	422	1250	
comment	4	5	0	58	19	1	3	0	0	
like	79.0	130.0	66.0	1572.0	325.0	152.0	249.0	325.0	161.0	
share	17.0	29.0	14.0	147.0	49.0	33.0	27.0	14.0	31.0	
Total Interactions	100	164	80	1777	393	186	279	339	192	

19 rows × 500 columns

In [19]:

```
shape1=df.shape
shape1
```

Out[19]:

```
(500, 19)
```

In [20]:

```
reshape=pd.pivot_table(df,index=['Type','Category'],values='like')
reshape
```

Out[20]:

		like
Type	**Category**	
Link	**1**	75.650000
	2	32.000000
	3	68.000000
Photo	**1**	126.000000
	2	235.857143
	3	219.753333
Status	**1**	136.333333
	2	182.552632
	3	151.500000
Video	**1**	231.428571

In [21]:

```
flatten = df.values.ravel()//ravel() written flatten underlying data as an array
flatten
```

Out[21]:

```
array([139441, 'Photo', 2, ..., 91.0, 28.0, 119], dtype=object)
```

In [ ]:

```

```