In [2]:

```
import pandas as pd
import numpy as np
df = pd.read_csv(r"C:\Users\ladsh\OneDrive\Desktop\DATASET\dataset_Facebook.csv", ";")
df
```

Out[2]:

	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 [3]:

```
df.head()
```

Out[3]:

	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

In [4]:

```
df.shape
```

Out[4]:

```
(500, 19)
```

In [5]:

```
df.isnull()
```

Out[5]:

	Page total likes	Type	Category	Post Month	Post Weekday	Post Hour	Paid	Lifetime Post Total Reach	Lifetime Post Total Impressions	Lifetime Engaged Users
0	False	False	False	False	False	False	False	False	False	False
1	False	False	False	False	False	False	False	False	False	False
2	False	False	False	False	False	False	False	False	False	False
3	False	False	False	False	False	False	False	False	False	False
4	False	False	False	False	False	False	False	False	False	False
...	...	...	...	...	...	...	...	...	...	...
495	False	False	False	False	False	False	False	False	False	False
496	False	False	False	False	False	False	False	False	False	False
497	False	False	False	False	False	False	False	False	False	False
498	False	False	False	False	False	False	False	False	False	False
499	False	False	False	False	False	False	True	False	False	False

500 rows × 19 columns

In [6]:

```
df.columns
```

Out[6]:

```
Index(['Page total likes', 'Type', 'Category', 'Post Month', 'Post Weekda
y',
       'Post Hour', 'Paid', 'Lifetime Post Total Reach',
       'Lifetime Post Total Impressions', 'Lifetime Engaged Users',
       'Lifetime Post Consumers', 'Lifetime Post Consumptions',
       'Lifetime Post Impressions by people who have liked your Page',
       'Lifetime Post reach by people who like your Page',
       'Lifetime People who have liked your Page and engaged with your pos
t',
       'comment', 'like', 'share', 'Total Interactions'],
      dtype='object')
```

In [7]:

```
Subset1=df[['Type','Category','Post Month']]
Subset1
Subset1.shape
```

Out[7]:

```
(500, 3)
```

In [8]:

```
Subset2=df.loc[0:200]
Subset2.shape
```

Out[8]:

```
(201, 19)
```

In [9]:

```
Subset3=df.loc[201:500]
Subset3.shape
```

Out[9]:

```
(299, 19)
```

In [10]:

```
Subset4=df.loc[0:2,['Type','Post Month']]
Subset4.shape
```

Out[10]:

```
(3, 2)
```

In [11]:

```
S1=Subset2
S1.shape
```

Out[11]:

```
(201, 19)
```

In [12]:

```
S2=Subset3
S2.shape
```

Out[12]:

```
(299, 19)
```

In [13]:

```
mergedf=pd.concat([Subset2,Subset3])
mergedf.shape
```

Out[13]:

```
(500, 19)
```

In [14]:

```
m2=S1.merge(S2,on='Type')
m2
```

Out[14]:

Page total likes_x	Type	Category_x	Post Month_x	Post Weekday_x	Post Hour_x	Paid_x	Lifetime Post Total Reach_x	Lifetime Post Total Impressions_x
139441	Photo	2	12	4	3	0.0	2752	5091
139441	Photo	2	12	4	3	0.0	2752	5091
139441	Photo	2	12	4	3	0.0	2752	5091
139441	Photo	2	12	4	3	0.0	2752	5091
139441	Photo	2	12	4	3	0.0	2752	5091
...	...	...	...	...	...	...	...	...
137893	Video	1	11	5	3	1.0	100768	220447
137893	Video	1	11	3	11	0.0	13544	30235
137893	Video	1	11	3	11	0.0	13544	30235
134879	Video	1	9	2	10	0.0	30624	56950
134879	Video	1	9	2	10	0.0	30624	56950

rows × 37 columns

In [15]:

```
sb1=df[['Post Month','Type']]
sb1.shape
```

Out[15]:

```
(500, 2)
```

In [16]:

```
sb2=df[['Category','Type']]
sb2.shape
```

Out[16]:

```
(500, 2)
```

In [17]:

```
m3=sb1.merge(sb2,left_index=True,right_index=True)
m3.shape
```

Out[17]:

```
(500, 4)
```

In [18]:

```
st=df.sort_values(by='Type')
st
```

Out[18]:

	Page total likes	Type	Category	Post Month	Post Weekday	Post Hour	Paid	Lifetime Post Total Reach	Lifetime Post Total Impressions	Lifetime Engaged Users
438	98195	Link	2	3	6	6	0.0	5730	10083	103
470	91437	Link	1	2	3	13	0.0	9356	14986	448
41	138895	Link	1	12	6	3	1.0	18480	28438	517
43	138353	Link	1	12	5	3	1.0	2645	4270	134
45	138353	Link	1	12	4	3	1.0	7968	13023	206
...	...	...	...	...	...	...	...	...	...	...
71	137893	Video	1	11	5	3	1.0	100768	220447	2101
55	138329	Video	1	11	6	2	1.0	16416	31950	459
277	126424	Video	1	6	2	13	0.0	139008	277100	1779
243	130791	Video	1	7	3	11	1.0	21872	40413	3872
74	137893	Video	1	11	3	11	0.0	13544	30235	517

500 rows × 19 columns

In [19]:

```
st1=df.sort_values(by=['Type','Post Month'])
st1
```

Out[19]:

	Page total likes	Type	Category	Post Month	Post Weekday	Post Hour	Paid	Lifetime Post Total Reach	Lifetime Post Total Impressions	Lifetime Engaged Users
477	86909	Link	1	1	6	4	0.0	39600	7927	572
481	86491	Link	1	1	4	4	1.0	4938	7910	66
485	86491	Link	1	1	2	2	0.0	5168	8371	66
492	85979	Link	1	1	5	11	0.0	45920	5808	753
470	91437	Link	1	2	3	13	0.0	9356	14986	448
...	...	...	...	...	...	...	...	...	...	...
183	134879	Video	1	9	2	10	0.0	30624	56950	2080
55	138329	Video	1	11	6	2	1.0	16416	31950	459
71	137893	Video	1	11	5	3	1.0	100768	220447	2101
74	137893	Video	1	11	3	11	0.0	13544	30235	517
29	138895	Video	1	12	4	11	1.0	36208	61262	1141

500 rows × 19 columns

In [20]:

```
st2=df.sort_values(by='Post Weekday',ascending=False)
st2
```

Out[20]:

	Page total likes	Type	Category	Post Month	Post Weekday	Post Hour	Paid	Lifetime Post Total Reach	Lifetime Post Total Impressions	Lifetime Engaged Users
250	129600	Photo	1	7	7	6	1.0	5848	9068	622
428	100732	Photo	1	3	7	15	0.0	5132	9067	398
430	100732	Link	1	3	7	14	0.0	2933	5144	24
431	100732	Photo	1	3	7	12	0.0	4094	7469	206
380	111620	Photo	1	4	7	14	0.0	128064	251269	1539
...	...	...	...	...	...	...	...	...	...	..
220	131956	Photo	2	8	1	4	0.0	2540	4372	389
219	131956	Photo	3	8	1	12	0.0	5746	9874	769
106	137020	Photo	3	10	1	11	0.0	3674	7221	452
107	136736	Status	2	10	1	4	0.0	9504	19556	1132
262	128032	Photo	2	7	1	3	0.0	3330	5461	513

500 rows × 19 columns

In [21]:

```
tp=df.transpose()
tp
```

Out[21]:

	0	1	2	3	4	5	6	7	8	
Page total likes	139441	139441	139441	139441	139441	139441	139441	139441	139441	1
Type	Photo	Status	Photo	Photo	Photo	Status	Photo	Photo	Status	
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	1	0	0	1	1	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	130	66	1572	325	152	249	325	161	
share	17	29	14	147	49	33	27	14	31	
Total Interactions	100	164	80	1777	393	186	279	339	192	

19 rows × 500 columns

In [22]:

```
tp.shape
```

Out[22]:

```
(19, 500)
```

In [23]:

```
rs=pd.melt(df,id_vars=['Type'],value_vars=['Post Month'],var_name=['Post Month'])
rs
```

Out[23]:

	Type	Post Month	value
0	Photo	Post Month	12
1	Status	Post Month	12
2	Photo	Post Month	12
3	Photo	Post Month	12
4	Photo	Post Month	12
...	...	...	...
495	Photo	Post Month	1
496	Photo	Post Month	1
497	Photo	Post Month	1
498	Photo	Post Month	1
499	Photo	Post Month	1

500 rows × 3 columns

In [24]:

```
rs1=pd.melt(df,id_vars=['Type'],value_vars=['Post Month','Category'])
rs1
```

Out[24]:

	Type	variable	value
0	Photo	Post Month	12
1	Status	Post Month	12
2	Photo	Post Month	12
3	Photo	Post Month	12
4	Photo	Post Month	12
...	...	...	...
995	Photo	Category	3
996	Photo	Category	2
997	Photo	Category	1
998	Photo	Category	3
999	Photo	Category	2

1000 rows × 3 columns

In [25]:

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

```
                  comment
Type   Category
Link   1          2.900000
       2          2.000000
       3          2.000000
Photo  1          5.897297
       2         11.692308
       3          6.913333
Status 1          4.333333
       2          9.921053
       3          2.750000
Video  1         12.285714
```

In [ ]:

```

```

In [ ]:

```

```

In [ ]:

```
```