

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

```
In [2]: df = pd.read_csv(r"../DSBDAPractical/dataset_Facebook.csv", sep=";")
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	Lifetime Post Consumers	Lifetime Post Consumptions	Lifetime Post Impressions by people who have liked your Page	Lifetime Post Reactions by people who have liked your Page	
0	139441	Photo		2	12	4	3	0.0	2752	5091	178	109	159	3078	164
1	139441	Status		2	12	3	10	0.0	10460	19057	1457	1361	1674	11710	611
2	139441	Photo		3	12	3	3	0.0	2413	4373	177	113	154	2812	150
3	139441	Photo		2	12	2	10	1.0	50128	87991	2211	790	1119	61027	3204
4	139441	Photo		2	12	2	3	0.0	7244	13594	671	410	580	6228	320
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
495	85093	Photo		3	1	7	2	0.0	4684	7536	733	708	985	4750	287
496	81370	Photo		2	1	5	8	0.0	3480	6229	537	508	687	3961	210
497	81370	Photo		1	1	5	2	0.0	3778	7216	625	572	795	4742	238
498	81370	Photo		3	1	4	11	0.0	4156	7564	626	574	832	4534	248
499	81370	Photo		2	1	4	4	NaN	4188	7292	564	524	743	3861	220

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	Lifetime Post Consumers	Lifetime Post Consumptions	Impressions by people who have liked your Page	Lifetime Post reactions by people who liked your Page	
0	139441	Photo		2	12	4	3	0.0	2752	5091	178	109	159	3078	164
1	139441	Status		2	12	3	10	0.0	10460	19057	1457	1361	1674	11710	611
2	139441	Photo		3	12	3	3	0.0	2413	4373	177	113	154	2812	150
3	139441	Photo		2	12	2	10	1.0	50128	87991	2211	790	1119	61027	3204
4	139441	Photo		2	12	2	3	0.0	7244	13594	671	410	580	6228	320

```
In [4]: df.tail()
```

Out[4]:

	Page total likes	Type	Category	Post Month	Post Weekday	Post Hour	Paid	Lifetime Post Total Reach	Lifetime Post Total Impressions	Lifetime Engaged Users	Lifetime Post Consumers	Lifetime Post Consumptions	Impressions by people who have liked your Page	Lifetime Post reactions by people who liked your Page	
495	85093	Photo		3	1	7	2	0.0	4684	7536	733	708	985	4750	287
496	81370	Photo		2	1	5	8	0.0	3480	6229	537	508	687	3961	210
497	81370	Photo		1	1	5	2	0.0	3778	7216	625	572	795	4742	238
498	81370	Photo		3	1	4	11	0.0	4156	7564	626	574	832	4534	248
499	81370	Photo		2	1	4	4	NaN	4188	7292	564	524	743	3861	220

```
In [5]: df.describe()
```

Out[5]:

	Page total likes	Category	Post Month	Post Weekday	Post Hour	Paid	Lifetime Post Total Reach	Lifetime Post Total Impressions	Lifetime Engaged Users	Lifetime Post Consumers
count	500.000000	500.000000	500.000000	500.000000	500.000000	499.000000	500.000000	5.000000e+02	500.000000	500.000000
mean	123194.176000	1.880000	7.038000	4.150000	7.840000	0.278557	13903.360000	2.958595e+04	920.344000	798.772000
std	16272.813214	0.852675	3.307936	2.030701	4.368589	0.448739	22740.78789	7.680325e+04	985.016636	882.505013
min	81370.000000	1.000000	1.000000	1.000000	1.000000	0.000000	238.000000	5.700000e+02	9.000000	9.000000
25%	112676.000000	1.000000	4.000000	2.000000	3.000000	0.000000	3315.000000	5.694750e+03	393.750000	332.500000
50%	129600.000000	2.000000	7.000000	4.000000	9.000000	0.000000	5281.000000	9.051000e+03	625.500000	551.500000
75%	136393.000000	3.000000	10.000000	6.000000	11.000000	1.000000	13168.000000	2.208550e+04	1062.000000	955.500000
max	139441.000000	3.000000	12.000000	7.000000	23.000000	1.000000	180480.000000	1.110282e+06	11452.000000	11328.000000

```
In [6]: df.shape
```

Out[6]: (500, 19)

```
In [7]: df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 500 entries, 0 to 499
Data columns (total 19 columns):
#   Column                                                                 Non-Null Count  Dtype
---  -
0   Page total likes                                                       500 non-null   int64
1   Type                                                                    500 non-null   object
2   Category                                                                500 non-null   int64
3   Post Month                                                             500 non-null   int64
4   Post Weekday                                                            500 non-null   int64
5   Post Hour                                                               500 non-null   int64
6   Paid                                                                    499 non-null   float64
7   Lifetime Post Total Reach                                              500 non-null   int64
8   Lifetime Post Total Impressions                                       500 non-null   int64
9   Lifetime Engaged Users                                                500 non-null   int64
10  Lifetime Post Consumers                                                500 non-null   int64
11  Lifetime Post Consumptions                                             500 non-null   int64
12  Lifetime Post Impressions by people who have liked your Page         500 non-null   int64
13  Lifetime Post reach by people who like your Page                     500 non-null   int64
14  Lifetime People who have liked your Page and engaged with your post  500 non-null   int64
15  comment                                                                 500 non-null   int64
16  like                                                                    499 non-null   float64
17  share                                                                   496 non-null   float64
18  Total Interactions                                                     500 non-null   int64
dtypes: float64(3), int64(15), object(1)
memory usage: 74.3+ KB
```

```
In [9]: #merging
df1=df[['Page total likes','Type','Category']].loc[0:15]
df1
```

Out[9]:	Page total likes	Type	Category
0	139441	Photo	2
1	139441	Status	2
2	139441	Photo	3
3	139441	Photo	2
4	139441	Photo	2
5	139441	Status	2
6	139441	Photo	3
7	139441	Photo	3
8	139441	Status	2
9	139441	Photo	3
10	139441	Status	2
11	139441	Photo	2
12	139441	Photo	2
13	139441	Photo	2
14	138414	Photo	2
15	138414	Status	2

```
In [10]: df2=df[['Page total likes','Type','Category']].loc[16:30]
df2
```

Out[10]:	Page total likes	Type	Category
16	138414	Photo	3
17	138414	Photo	1
18	138414	Status	3
19	138414	Photo	3
20	138414	Photo	2
21	138414	Photo	1
22	138414	Link	1
23	138414	Photo	3
24	138414	Status	2
25	138458	Status	2
26	138458	Status	2
27	138458	Photo	3
28	138895	Photo	2
29	138895	Video	1
30	138895	Photo	2

```
In [11]: df3=df[['Page total likes','Type','Category']].loc[31:45]
df3
```

Out[11]:

	Page total likes	Type	Category
31	138895	Photo	2
32	138895	Photo	3
33	138895	Photo	3
34	138895	Photo	1
35	138895	Photo	2
36	138895	Photo	3
37	138895	Photo	1
38	138895	Status	2
39	138895	Photo	1
40	138895	Status	2
41	138895	Link	1
42	138353	Photo	1
43	138353	Link	1
44	138353	Photo	1
45	138353	Link	1

In [15]:

```
merging=pd.concat([df1,df2,df3])
merging
```

Out[15]:

	Page total likes	Type	Category
0	139441	Photo	2
1	139441	Status	2
2	139441	Photo	3
3	139441	Photo	2
4	139441	Photo	2
5	139441	Status	2
6	139441	Photo	3
7	139441	Photo	3
8	139441	Status	2
9	139441	Photo	3
10	139441	Status	2
11	139441	Photo	2
12	139441	Photo	2
13	139441	Photo	2
14	138414	Photo	2
15	138414	Status	2
16	138414	Photo	3
17	138414	Photo	1
18	138414	Status	3
19	138414	Photo	3
20	138414	Photo	2
21	138414	Photo	1
22	138414	Link	1
23	138414	Photo	3
24	138414	Status	2
25	138458	Status	2
26	138458	Status	2
27	138458	Photo	3
28	138895	Photo	2
29	138895	Video	1
30	138895	Photo	2
31	138895	Photo	2
32	138895	Photo	3
33	138895	Photo	3
34	138895	Photo	1
35	138895	Photo	2
36	138895	Photo	3
37	138895	Photo	1
38	138895	Status	2
39	138895	Photo	1
40	138895	Status	2
41	138895	Link	1
42	138353	Photo	1
43	138353	Link	1
44	138353	Photo	1
45	138353	Link	1

In [17]:

```
#sorting
Sort_Values = df.sort_values('Page total likes',ascending=False)
Sort_Values
```

Out[17]:

	Page total likes	Type	Category	Post Month	Post Weekday	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 re:pec v y P:
0	139441	Photo	2	12	4	3	0.0	2752	5091	178	109	159	3078	1
8	139441	Status	2	12	7	3	0.0	11844	22538	1530	1407	1692	15220	7
1	139441	Status	2	12	3	10	0.0	10460	19057	1457	1361	1674	11710	6
12	139441	Photo	2	12	5	10	0.0	2847	5133	193	115	133	3779	2
11	139441	Photo	2	12	5	10	0.0	3112	5590	208	127	145	3887	2
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
495	85093	Photo	3	1	7	2	0.0	4684	7536	733	708	985	4750	2
496	81370	Photo	2	1	5	8	0.0	3480	6229	537	508	687	3961	2
497	81370	Photo	1	1	5	2	0.0	3778	7216	625	572	795	4742	2
498	81370	Photo	3	1	4	11	0.0	4156	7564	626	574	832	4534	2
499	81370	Photo	2	1	4	4	NaN	4188	7292	564	524	743	3861	2

500 rows × 19 columns

```
In [18]: Sort_Values=df.sort_values('Page total likes', ascending=True)
Sort_Values
```

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	Lifetime Post Consumers	Lifetime Post Consumptions	Lifetime Post Impressions by people who have liked your Page	Lifetime Post re:pec v y P:
499	81370	Photo	2	1	4	4	NaN	4188	7292	564	524	743	3861	2
496	81370	Photo	2	1	5	8	0.0	3480	6229	537	508	687	3961	2
498	81370	Photo	3	1	4	11	0.0	4156	7564	626	574	832	4534	2
497	81370	Photo	1	1	5	2	0.0	3778	7216	625	572	795	4742	2
493	85093	Photo	3	1	1	2	0.0	8412	13960	1179	1111	1632	8632	5
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10	139441	Status	2	12	5	10	0.0	21744	42334	4258	4100	4540	37849	18
11	139441	Photo	2	12	5	10	0.0	3112	5590	208	127	145	3887	2
13	139441	Photo	2	12	5	3	0.0	2549	4896	249	134	168	3631	1
7	139441	Photo	3	12	7	9	1.0	13720	24137	537	232	305	19728	11
0	139441	Photo	2	12	4	3	0.0	2752	5091	178	109	159	3078	1

500 rows × 19 columns

```
In [19]: #transpose
df.transpose()
```

Out[19]:

	0	1	2	3	4	5	6	7	8	9	...	490	491	492	493	494	...
Page total likes	139441	139441	139441	139441	139441	139441	139441	139441	139441	139441	...	85979	85979	85979	85093	85093	85093
Type	Photo	Status	Photo	Photo	Photo	Status	Photo	Photo	Status	Photo	...	Photo	Photo	Link	Photo	Photo	...
Category	2	2	3	2	2	2	3	3	2	3	...	3	3	1	3	3	...
Post Month	12	12	12	12	12	12	12	12	12	12	...	1	1	1	1	1	...
Post Weekday	4	3	3	2	2	1	1	7	7	6	...	6	6	5	1	7	...
Post Hour	3	10	3	10	3	9	3	9	3	10	...	11	3	11	2	10	...
Paid	0.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	...	0.0	1.0	0.0	0.0	0.0	...
Lifetime Post Total Reach	2752	10460	2413	50128	7244	10472	11692	13720	11844	4694	...	5280	6184	45920	8412	5400	...
Lifetime Post Total Impressions	5091	19057	4373	87991	13594	20849	19479	24137	22538	8668	...	8703	10228	5808	13960	9218	...
Lifetime Engaged Users	178	1457	177	2211	671	1191	481	537	1530	280	...	951	956	753	1179	810	...
Lifetime Post Consumers	109	1361	113	790	410	1073	265	232	1407	183	...	911	901	655	1111	756	...
Lifetime Post Consumptions	159	1674	154	1119	580	1389	364	305	1692	250	...	1237	1140	763	1632	1003	...
Lifetime Post Impressions by people who have liked your Page	3078	11710	2812	61027	6228	16034	15432	19728	15220	4309	...	5757	6085	15766	8632	5654	...
Lifetime Post reach by people who like your Page	1640	6112	1503	32048	3200	7852	9328	11056	7912	2324	...	3300	3502	10720	5348	3230	...
Lifetime People who have liked your Page and engaged with your post	119	1108	132	1386	396	1016	379	422	1250	199	...	431	437	220	699	422	...
comment	4	5	0	58	19	1	3	0	0	3	...	1	1	0	17	10	...
like	79.0	130.0	66.0	1572.0	325.0	152.0	249.0	325.0	161.0	113.0	...	79.0	105.0	128.0	185.0	125.0	...
share	17.0	29.0	14.0	147.0	49.0	33.0	27.0	14.0	31.0	26.0	...	30.0	46.0	9.0	55.0	41.0	...
Total Interactions	100	164	80	1777	393	186	279	339	192	142	...	110	152	137	257	176	...

19 rows × 500 columns

In [21]:

```
#Shape
shape=df.shape
shape
```

Out[21]: (500, 19)

In [33]:

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

Type	Category	comment
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 [37]:

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

Type	Category	comment	like
Link	1	2.900000	75.650000
	2	2.000000	32.000000
	3	2.000000	68.000000
Photo	1	5.897297	126.000000
	2	11.692308	235.857143
	3	6.913333	219.753333
Status	1	4.333333	136.333333
	2	9.921053	182.552632
	3	2.750000	151.500000
Video	1	12.285714	231.428571

In [ ]:

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