

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

In [3]: df=pd.read_csv('dataset_Facebook.csv',sep=';')

In [4]: df.head()

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	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 post	comment	like
0	139441	Photo	2	12	4	3	0.0	2752	5091	178	109	159	3078	1640	119	4	79.0
1	139441	Status	2	12	3	10	0.0	10460	19057	1457	1361	1674	11710	6112	1108	5	130.0
2	139441	Photo	3	12	3	3	0.0	2413	4373	177	113	154	2812	1503	132	0	66.0
3	139441	Photo	2	12	2	10	1.0	50128	87991	2211	790	1119	61027	32048	1386	58	1572.0
4	139441	Photo	2	12	2	3	0.0	7244	13594	671	410	580	6228	3200	396	19	325.0

```
In [5]: 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 [6]: df_subset1=df_subset=df[['like','share']]
print(df_subset1)

   like  share
0   79.0   17.0
1  130.0   29.0
2   66.0   14.0
3  1572.0  147.0
4   325.0   49.0
..    ...   ...
495   53.0   26.0
496   53.0   22.0
497   93.0   18.0
498   91.0   38.0
499   91.0   28.0

[500 rows x 2 columns]
```

```
In [15]: df[['Type','like']]
```

Out[15]:

	Type	like
0	Photo	79.0
1	Status	130.0
2	Photo	66.0
3	Photo	1572.0
4	Photo	325.0
...
495	Photo	53.0
496	Photo	53.0
497	Photo	93.0
498	Photo	91.0
499	Photo	91.0

500 rows x 2 columns

```
In [16]: df_subset2=df[df['like']>100]
print(df_subset2)
```

	Page total likes	Type	Category	Post Month	Post Weekday	Post Hour	\
1	139441	Status	2	12	3	10	
3	139441	Photo	2	12	2	10	
4	139441	Photo	2	12	2	3	
5	139441	Status	2	12	1	9	
6	139441	Photo	3	12	1	3	
..	
488	85979	Photo	3	1	7	10	
491	85979	Photo	3	1	6	3	
492	85979	Link	1	1	5	11	
493	85093	Photo	3	1	1	2	
494	85093	Photo	3	1	7	10	

	Paid	Lifetime Post Total Reach	Lifetime Post Total Impressions	\
1	0.0	10460	19057	
3	1.0	50128	87991	
4	0.0	7244	13594	
5	0.0	10472	20849	
6	1.0	11692	19479	

```
In [17]: df.loc[[1,3,7]]
```

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 reach by people who like your Page	Lifetime People who have liked your Page and engaged with your post	comment	like
1	139441	Status	2	12	3	10	0.0	10460	19057	1457	1361	1674	11710	6112	1108	5	130.0
3	139441	Photo	2	12	2	10	1.0	50128	87991	2211	790	1119	61027	32048	1386	58	1572.0
7	139441	Photo	3	12	7	9	1.0	13720	24137	537	232	305	19728	11056	422	0	325.0

```
In [18]: df.iloc[1:3,0:2]
```

Out[18]:

	Page total likes	Type
1	139441	Status
2	139441	Photo

```
In [19]: df.loc[5:8]
```

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	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 post	comment	like
5	139441	Status	2	12	1	9	0.0	10472	20849	1191	1073	1389	16034	7852	1016	1	152.0
6	139441	Photo	3	12	1	3	1.0	11692	19479	481	265	364	15432	9328	379	3	249.0
7	139441	Photo	3	12	7	9	1.0	13720	24137	537	232	305	19728	11056	422	0	325.0
8	139441	Status	2	12	7	3	0.0	11844	22538	1530	1407	1692	15220	7912	1250	0	161.0

```
In [20]: df.loc[1:7,['like','share']]
```

Out[20]:

	like	share
1	130.0	29.0
2	66.0	14.0
3	1572.0	147.0
4	325.0	49.0
5	152.0	33.0
6	249.0	27.0
7	325.0	14.0

```
In [21]: df.info()
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 [23]: subset1=df.loc[1:5,['Category','like','share','Type']]
subset1
```

```
Out[23]:
```

	Category	like	share	Type
1	2	130.0	29.0	Status
2	3	66.0	14.0	Photo
3	2	1572.0	147.0	Photo
4	2	325.0	49.0	Photo
5	2	152.0	33.0	Status

```
In [24]: subset2=df.loc[11:13,['Category','like','share','Type']]
subset2
```

```
Out[24]:
```

	Category	like	share	Type
11	2	88.0	18.0	Photo
12	2	90.0	14.0	Photo
13	2	137.0	10.0	Photo

```
In [25]: print(subset1, '\n\n', subset2)
```

```
Category    like  share  Type
1          2  130.0   29.0  Status
2          3   66.0   14.0   Photo
3          2 1572.0  147.0   Photo
4          2  325.0   49.0   Photo
5          2  152.0   33.0  Status

Category    like  share  Type
11          2   88.0   18.0  Photo
12          2   90.0   14.0  Photo
13          2  137.0   10.0  Photo
```

```
In [26]: merge_set=pd.concat([subset1,subset2],axis=0)
print(merge_set)
```

```
Category    like  share  Type
1          2  130.0   29.0  Status
2          3   66.0   14.0   Photo
3          2 1572.0  147.0   Photo
4          2  325.0   49.0   Photo
5          2  152.0   33.0  Status
11          2   88.0   18.0  Photo
12          2   90.0   14.0  Photo
13          2  137.0   10.0  Photo
```

```
In [27]: merge_set.shape
```

```
Out[27]: (8, 4)
```

```
In [28]: df.sort_values(by='like',ascending=True)
```

Out[28]:

	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 reach by people who like your Page	Lifetime People who have liked your Page and engaged with your post	comment	lik
21	138414	Photo	1	12	7	10	0.0	1384	2467	15	15	20	2196	1172	15	0	0.
417	104070	Photo	1	3	3	10	0.0	1874	2474	25	25	31	1483	1062	15	0	0.
100	137020	Photo	1	10	4	9	1.0	1357	2453	37	37	55	2154	1120	32	0	0.
76	137893	Photo	1	11	3	2	0.0	1228	2392	17	17	19	2392	1228	17	0	0.
441	98195	Photo	1	3	5	4	1.0	1845	2670	9	9	9	1614	1008	9	0	0.
...
168	135428	Photo	1	9	3	10	0.0	41984	68290	3370	2420	4074	34802	20928	2126	144	1622.
349	117764	Photo	3	5	5	13	0.0	81856	124753	3000	1637	2718	52477	27392	1756	45	1639.
379	111620	Photo	3	4	1	14	1.0	105632	147918	3984	2254	3391	48575	27328	1936	51	1998.
244	130791	Photo	2	7	3	5	1.0	180480	319133	8072	4010	6242	108752	51456	3316	372	5172.
111	136736	Photo	1	10	6	8	0.0	1261	2158	37	37	49	1911	1077	33	0	NaI

500 rows × 19 columns

```
In [29]: df.sort_values(by='like',ascending=False,kind='mergesort')
```

Out[29]:

	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 reach by people who like your Page	Lifetime People who have liked your Page and engaged with your post	comment	lik
244	130791	Photo	2	7	3	5	1.0	180480	319133	8072	4010	6242	108752	51456	3316	372	5172.
379	111620	Photo	3	4	1	14	1.0	105632	147918	3984	2254	3391	48575	27328	1936	51	1998.
349	117764	Photo	3	5	5	13	0.0	81856	124753	3000	1637	2718	52477	27392	1756	45	1639.
168	135428	Photo	1	9	3	10	0.0	41984	68290	3370	2420	4074	34802	20928	2126	144	1622.
3	139441	Photo	2	12	2	10	1.0	50128	87991	2211	790	1119	61027	32048	1386	58	1572.
...
76	137893	Photo	1	11	3	2	0.0	1228	2392	17	17	19	2392	1228	17	0	0.
100	137020	Photo	1	10	4	9	1.0	1357	2453	37	37	55	2154	1120	32	0	0.
417	104070	Photo	1	3	3	10	0.0	1874	2474	25	25	31	1483	1062	15	0	0.
441	98195	Photo	1	3	5	4	1.0	1845	2670	9	9	9	1614	1008	9	0	0.
111	136736	Photo	1	10	6	8	0.0	1261	2158	37	37	49	1911	1077	33	0	NaI

500 rows × 19 columns

```
In [31]: result=df.transpose()
print(result)
```

```
Category      3      2
Post Month    1      1
Post Weekday  4      4
Post Hour     11     4
Paid          0.0    NaN
Lifetime Post Total Reach    4156  4188
Lifetime Post Total Impressions 7564 7292
Lifetime Engaged Users      626   564
Lifetime Post Consumers      574   524
Lifetime Post Consumptions   832   743
Lifetime Post Impressions by people who have li... 4534 3861
Lifetime Post reach by people who like your Page 2452 2200
Lifetime People who have liked your Page and en... 370   316
comment        7      0
like          91.0  91.0
share         38.0  28.0
Total Interactions         136   119
```

[19 rows x 500 columns]

```
In [32]: df.shape
```

Out[32]: (500, 19)

```
In [33]: result.shape
```

Out[33]: (19, 500)

```
In [38]: selective_df=pd.DataFrame(df.iloc[0:3],columns=['like','share','Category'])
print(selective_df.head(5))
```

	like	share	Category
0	79.0	17.0	2
1	130.0	29.0	2
2	66.0	14.0	3

```
In [39]: sub1=df.loc[0:3,['Category','Post Month','Post Hour','Paid']]
sub1.melt(id_vars=['Category'])
```

Out[39]:

	Category	variable	value
0	2	Post Month	12.0
1	2	Post Month	12.0
2	3	Post Month	12.0
3	2	Post Month	12.0
4	2	Post Hour	3.0
5	2	Post Hour	10.0
6	3	Post Hour	3.0
7	2	Post Hour	10.0
8	2	Paid	0.0
9	2	Paid	0.0
10	3	Paid	0.0
11	2	Paid	1.0

```
In [40]: pivote_table=pd.pivot_table(selective_df,index=['Category'])
print(pivote_table)
```

Category	like	share
2	104.5	23.0
3	66.0	14.0

```
In [41]: pivote_table.shape
```

Out[41]: (2, 2)

```
In [42]: pivote_table.reset_index(inplace=True)
print(pivote_table)
```

	Category	like	share
0	2	104.5	23.0
1	3	66.0	14.0

```
In [43]: pivote_table.melt(id_vars=['like','share'])
```

Out[43]:

	like	share	variable	value
0	104.5	23.0	Category	2
1	66.0	14.0	Category	3

```
In [47]: home_expendature={ "Month":    ['Jan'      , 'Jan'      , 'Jan'      , 'feb'      , 'feb'      , 'march'    , 'March'],
                           "Category":  ['transport','grocery','household','entertainment','transport','grocery','household'],
                           "amount":    [74,        235,      175,      100,        115,      240,      225]
                           }
home_expendaturedf=pd.DataFrame(home_expendature)
print(home_expendaturedf)
```

	Month	Category	amount
0	Jan	transport	74
1	Jan	grocery	235
2	Jan	household	175
3	feb	entertainment	100
4	feb	transport	115
5	march	grocery	240
6	March	household	225

```
In [49]: pd.pivot_table(home_expendaturedf,index=['Category','Month'])
```

Out[49]:

		amount
Category	Month	
entertainment	feb	100
grocery	Jan	235
	march	240
household	Jan	175
	March	225
transport	Jan	74
	feb	115