


Assignment 1B

```
import pandas as pd
```


```
df = pd.read_csv("dataset_Facebook.csv", delimiter = ",")
df
```



	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
0	139441	Photo		2	12	4	3	0.0	2752	5091	178	109	159	3078
1	139441	Status		2	12	3	10	0.0	10460	19057	1457	1361	1674	11710
2	139441	Photo		3	12	3	3	0.0	2413	4373	177	113	154	2812
3	139441	Photo		2	12	2	10	1.0	50128	87991	2211	790	1119	61027
4	139441	Photo		2	12	2	3	0.0	7244	13594	671	410	580	6228
...
495	85093	Photo		3	1	7	2	0.0	4684	7536	733	708	985	4750
496	81370	Photo		2	1	5	8	0.0	3480	6229	537	508	687	3961
497	81370	Photo		1	1	5	2	0.0	3778	7216	625	572	795	4742
498	81370	Photo		3	1	4	11	0.0	4156	7564	626	574	832	4534
499	81370	Photo		2	1	4	4	NaN	4188	7292	564	524	743	3861

500 rows × 19 columns

```
df.shape
```



```
(500, 19)
```

```
df.isnull().sum()
```



```
Page total likes      0
Type                  0
Category              0
Post Month            0
Post Weekday          0
Post Hour             0
Paid                  1
Lifetime Post Total Reach      0
Lifetime Post Total Impressions 0
Lifetime Engaged Users      0
Lifetime Post Consumers      0
Lifetime Post Consumptions    0
Lifetime Post Impressions by people who have liked your Page 0
Lifetime Post reach by people who like your Page      0
Lifetime People who have liked your Page and engaged with your post comment 0
like                  1
share                 4
Total Interactions     0
dtype: int64
```

```
data = df.dropna()
```

```
data.isnull().sum()
```



```
Page total likes      0
Type                  0
Category              0
Post Month            0
Post Weekday          0
Post Hour             0
Paid                  0
Lifetime Post Total Reach      0
```

```
Lifetime Post Total Impressions      0
Lifetime Engaged Users                0
Lifetime Post Consumers                0
Lifetime Post Consumptions            0
Lifetime Post Impressions by people who have liked your Page  0
Lifetime Post reach by people who like your Page              0
Lifetime People who have liked your Page and engaged with your post  0
comment                             0
like                                 0
share                               0
Total Interactions                   0
dtype: int64
```

data.shape # 5 rows dropped

(495, 19)

Create Subsets

```
data['Page total likes'].mean()
```

np.float64(123173.26868686869)

```
subset1 = data[data["Page total likes"]>123173]
subset1.head()
```

	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 li yc Pa	
0	139441	Photo		2	12	4	3	0.0	2752	5091	178	109	159	3078	16
1	139441	Status		2	12	3	10	0.0	10460	19057	1457	1361	1674	11710	61
2	139441	Photo		3	12	3	3	0.0	2413	4373	177	113	154	2812	15
3	139441	Photo		2	12	2	10	1.0	50128	87991	2211	790	1119	61027	320
4	139441	Photo		2	12	2	3	0.0	7244	13594	671	410	580	6228	32

```
subset2 = data[["Type","like","share", "comment"]]
subset2
```

	Type	like	share	comment
0	Photo	79.0	17.0	4
1	Status	130.0	29.0	5
2	Photo	66.0	14.0	0
3	Photo	1572.0	147.0	58
4	Photo	325.0	49.0	19
...
494	Photo	125.0	41.0	10
495	Photo	53.0	26.0	5
496	Photo	53.0	22.0	0
497	Photo	93.0	18.0	4
498	Photo	91.0	38.0	7

495 rows x 4 columns

```
subset3 = data[["Type","Page total likes","Category"]]
subset3
```



	Type	Page total likes	Category
0	Photo	139441	2
1	Status	139441	2
2	Photo	139441	3
3	Photo	139441	2
4	Photo	139441	2
...
494	Photo	85093	3
495	Photo	85093	3
496	Photo	81370	2
497	Photo	81370	1
498	Photo	81370	3

495 rows × 3 columns

```
subset4 = data[data["Type"]=="status"]
subset4.head()
```



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
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```
subset5 = data[(data.like > 500) & (data.share > 30)]
subset5.head()
```



	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	
3	139441	Photo		2	12	2	10	1.0	50128	87991	2211	790	1119	61027	3
28	138895	Photo		2	12	5	3	0.0	9560	18264	973	559	885	9217	.
67	138185	Photo		1	11	7	3	1.0	53456	93790	1576	995	1469	32646	1.
101	137020	Photo		2	10	4	3	0.0	68896	104952	2624	1326	1952	35707	1
105	137020	Photo		1	10	2	4	0.0	70144	111745	3216	2628	4782	43671	2

```
subset6 = data.loc[0:250]
subset6
```



	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 who
0	139441	Photo		2	12	4	3	0.0	2752	5091	178	109	159	3078
1	139441	Status		2	12	3	10	0.0	10460	19057	1457	1361	1674	11710
2	139441	Photo		3	12	3	3	0.0	2413	4373	177	113	154	2812
3	139441	Photo		2	12	2	10	1.0	50128	87991	2211	790	1119	61027
4	139441	Photo		2	12	2	3	0.0	7244	13594	671	410	580	6228
...
246	130791	Photo		2	7	2	8	0.0	2881	5188	550	503	730	3840
247	129600	Photo		2	7	1	12	0.0	3460	6503	541	482	667	4371
248	129600	Photo		3	7	1	6	0.0	3406	5656	571	512	731	4446
249	129600	Photo		2	7	7	11	1.0	2602	4349	479	444	588	3342
250	129600	Photo		1	7	7	6	1.0	5848	9068	622	570	795	6651

247 rows × 19 columns

```
subset7 = data.iloc[:,0:10]
subset7
```



	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
...
494	85093	Photo	3	1	7	10	0.0	5400	9218	810
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

```
subset8 = data.iloc[201:500]
subset8
```



	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 reac pe who	
205	132201	Photo		1	8	1	12	1.0	3254	5644	371	344	513	5069	
206	132201	Photo		1	8	1	3	0.0	50640	121234	2240	1577	2779	92348	3
207	132201	Photo		2	8	7	10	0.0	3734	6218	529	434	794	4831	
208	132201	Photo		3	8	7	3	0.0	2594	4220	347	315	529	3418	
209	132201	Photo		2	8	6	10	1.0	2232	3772	376	322	440	2205	
...	
494	85093	Photo		3	1	7	10	0.0	5400	9218	810	756	1003	5654	
495	85093	Photo		3	1	7	2	0.0	4684	7536	733	708	985	4750	
496	81370	Photo		2	1	5	8	0.0	3480	6229	537	508	687	3961	
497	81370	Photo		1	1	5	2	0.0	3778	7216	625	572	795	4742	
498	81370	Photo		3	1	4	11	0.0	4156	7564	626	574	832	4534	

294 rows × 19 columns

▼ Merge & Concat Cheat Sheet

`pd.merge(df1, df2, on="key", how="...")`

- **inner** → Only matching rows (like SQL INNER JOIN)
- **outer** → All rows, fill missing with NaN (like FULL OUTER JOIN)
- **left** → All from left, matching from right (like LEFT JOIN)
- **right** → All from right, matching from left (like RIGHT JOIN)

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

- **axis=0** → Add rows (stack like appending data)
- **axis=1** → Add columns (side-by-side like features merging)

Merge for relations, Concat for stacking!

```
merge_inner = pd.merge(subset6, subset8, left_index=True, right_index=True) #default how='inner'
merge_inner
```



	Page total likes_x	Type_x	Category_x	Post Month_x	Post Weekday_x	Post Hour_x	Paid_x	Lifetime Post Total Reach_x	Lifetime Post Total Impressions_x	Lifetime Engaged Users_x	...	Lifetime Engaged Users_y	Lifetime Post Consumers_y
205	132201	Photo	1	8	1	12	1.0	3254	5644	371	...	371	344
206	132201	Photo	1	8	1	3	0.0	50640	121234	2240	...	2240	1577
207	132201	Photo	2	8	7	10	0.0	3734	6218	529	...	529	434
208	132201	Photo	3	8	7	3	0.0	2594	4220	347	...	347	315
209	132201	Photo	2	8	6	10	1.0	2232	3772	376	...	376	322
210	132201	Photo	3	8	6	3	1.0	22120	54734	979	...	979	906
211	132201	Photo	3	8	5	10	0.0	7980	12978	630	...	630	398
212	132201	Photo	2	8	5	1	0.0	1659	2845	345	...	345	321
213	132201	Photo	3	8	4	11	1.0	1006	1594	277	...	277	268
214	132201	Photo	3	8	4	3	1.0	12728	21685	844	...	844	461
215	131956	Photo	1	8	3	10	0.0	28880	64746	1062	...	1062	991
216	131956	Photo	2	8	3	4	0.0	1330	2327	363	...	363	351
217	131956	Status	2	8	2	12	0.0	14424	26000	304	...	304	286
218	131956	Photo	1	8	2	7	0.0	14200	26728	1393	...	1393	1354
219	131956	Photo	3	8	1	12	0.0	5746	9874	769	...	769	632
220	131956	Photo	2	8	1	4	0.0	2540	4372	389	...	389	330
221	131956	Photo	3	8	7	10	0.0	4324	7241	548	...	548	431
222	131808	Status	2	8	7	4	0.0	8260	14305	997	...	997	953
223	131808	Status	2	8	6	10	1.0	20168	35904	3370	...	3370	3244
224	131808	Photo	1	8	6	6	0.0	5046	9084	528	...	528	477
225	131808	Status	2	7	5	14	0.0	15296	25269	2827	...	2827	2781
226	131728	Photo	3	7	5	8	1.0	3414	6369	473	...	473	342
227	131728	Photo	1	7	4	10	1.0	95424	252207	699	...	699	575
228	131728	Photo	2	7	4	3	0.0	14824	21863	868	...	868	591
229	131630	Photo	2	7	3	13	0.0	3504	5699	444	...	444	374
230	131630	Photo	3	7	2	23	0.0	2822	5058	424	...	424	351
231	131630	Photo	3	7	2	13	0.0	2973	5063	356	...	356	297
232	131630	Status	2	7	2	6	1.0	10824	20573	135	...	135	126
233	131630	Photo	1	7	1	11	0.0	4592	6691	320	...	320	289
234	131630	Photo	2	7	1	5	0.0	3176	5278	372	...	372	319
235	131300	Status	2	7	7	10	0.0	10956	19279	128	...	128	119
236	131300	Photo	3	7	7	4	0.0	10888	19744	913	...	913	783
237	131300	Photo	2	7	6	10	0.0	3594	6316	424	...	424	354
238	131300	Photo	1	7	6	2	0.0	3384	6166	451	...	451	395
239	130791	Photo	2	7	5	11	1.0	4096	7200	487	...	487	406
240	130791	Photo	3	7	5	3	0.0	19968	35161	1016	...	1016	592
241	130791	Photo	1	7	4	11	0.0	4892	8499	536	...	536	460
242	130791	Status	2	7	4	6	0.0	17360	33613	2573	...	2573	2448
243	130791	Video	1	7	3	11	1.0	21872	40413	3872	...	3872	3822
244	130791	Photo	2	7	3	5	1.0	180480	319133	8072	...	8072	4010
245	130791	Photo	1	7	2	13	0.0	44464	66824	1052	...	1052	930
246	130791	Photo	2	7	2	8	0.0	2881	5188	550	...	550	503
247	129600	Photo	2	7	1	12	0.0	3460	6503	541	...	541	482
248	129600	Photo	3	7	1	6	0.0	3406	5656	571	...	571	512

249	129600	Photo	2	7	7	11	1.0	2602	4349	479	...	479	444
250	129600	Photo	1	7	7	6	1.0	5848	9068	622	...	622	570

46 rows × 38 columns

```
# Merging the DataFrames on Common Columns

merged_data = pd.merge(subset6,subset8,how='outer',suffixes=("_A", "_B"))
merged_data
```



	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 who
0	81370	Photo	1	1	5	2	0.0	3778	7216	625	572	795	4742	
1	81370	Photo	2	1	5	8	0.0	3480	6229	537	508	687	3961	
2	81370	Photo	3	1	4	11	0.0	4156	7564	626	574	832	4534	
3	85093	Photo	3	1	1	2	0.0	8412	13960	1179	1111	1632	8632	
4	85093	Photo	3	1	7	2	0.0	4684	7536	733	708	985	4750	
...	
490	139441	Photo	3	12	7	9	1.0	13720	24137	537	232	305	19728	1
491	139441	Status	2	12	1	9	0.0	10472	20849	1191	1073	1389	16034	
492	139441	Status	2	12	3	10	0.0	10460	19057	1457	1361	1674	11710	
493	139441	Status	2	12	5	10	0.0	21744	42334	4258	4100	4540	37849	1
494	139441	Status	2	12	7	3	0.0	11844	22538	1530	1407	1692	15220	

495 rows × 19 columns

```
merged_left = pd.merge(subset6,subset8,left_index=True,right_index=True ,how='right')
merged_left
```



	Page total likes_x	Type_x	Category_x	Post Month_x	Post Weekday_x	Post Hour_x	Paid_x	Lifetime Post Total Reach_x	Lifetime Post Total Impressions_x	Lifetime Post Engaged Users_x	...	Lifetime Post Engaged Users_y	Lifetime Post Consumers_y
205	132201.0	Photo	1.0	8.0	1.0	12.0	1.0	3254.0	5644.0	371.0	...	371	344
206	132201.0	Photo	1.0	8.0	1.0	3.0	0.0	50640.0	121234.0	2240.0	...	2240	1577
207	132201.0	Photo	2.0	8.0	7.0	10.0	0.0	3734.0	6218.0	529.0	...	529	434
208	132201.0	Photo	3.0	8.0	7.0	3.0	0.0	2594.0	4220.0	347.0	...	347	315
209	132201.0	Photo	2.0	8.0	6.0	10.0	1.0	2232.0	3772.0	376.0	...	376	322
...
494	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	...	810	756
495	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	...	733	708
496	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	...	537	508
497	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	...	625	572
498	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	...	626	574

294 rows × 38 columns

```
concat_col = pd.concat([subset6,subset8], axis=1)
concat_col
```



	Page total likes	Type	Category	Post Month	Post Weekday	Post Hour	Paid	Lifetime Post Total Reach	Lifetime Post Total Impressions	Lifetime Engaged Users	...	Lifetime Engaged Users	Lifetime Post Consumers	Lifetime Post Consumptions
0	139441.0	Photo	2.0	12.0	4.0	3.0	0.0	2752.0	5091.0	178.0	...	NaN	NaN	NaN
1	139441.0	Status	2.0	12.0	3.0	10.0	0.0	10460.0	19057.0	1457.0	...	NaN	NaN	NaN
2	139441.0	Photo	3.0	12.0	3.0	3.0	0.0	2413.0	4373.0	177.0	...	NaN	NaN	NaN
3	139441.0	Photo	2.0	12.0	2.0	10.0	1.0	50128.0	87991.0	2211.0	...	NaN	NaN	NaN
4	139441.0	Photo	2.0	12.0	2.0	3.0	0.0	7244.0	13594.0	671.0	...	NaN	NaN	NaN
...
494	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	...	810.0	756.0	1003.0
495	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	...	733.0	708.0	985.0
496	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	...	537.0	508.0	687.0
497	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	...	625.0	572.0	795.0
498	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	...	626.0	574.0	832.0

495 rows × 38 columns

```
# (Concatenating Rows) Merging by Stacking Rows
concat_row = pd.concat([subset6,subset8], axis=0)
concat_row
```



	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	Life Post reac pe who
0	139441	Photo	2	12	4	3	0.0	2752	5091	178	109	159	3078	
1	139441	Status	2	12	3	10	0.0	10460	19057	1457	1361	1674	11710	
2	139441	Photo	3	12	3	3	0.0	2413	4373	177	113	154	2812	
3	139441	Photo	2	12	2	10	1.0	50128	87991	2211	790	1119	61027	3
4	139441	Photo	2	12	2	3	0.0	7244	13594	671	410	580	6228	
...	
494	85093	Photo	3	1	7	10	0.0	5400	9218	810	756	1003	5654	
495	85093	Photo	3	1	7	2	0.0	4684	7536	733	708	985	4750	
496	81370	Photo	2	1	5	8	0.0	3480	6229	537	508	687	3961	
497	81370	Photo	1	1	5	2	0.0	3778	7216	625	572	795	4742	
498	81370	Photo	3	1	4	11	0.0	4156	7564	626	574	832	4534	

541 rows × 19 columns

Sort

```
sort_column1 = data.sort_values(by = "like", ascending = False)
sort_column1.head(5)
```




	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 reac pe who	
244	130791	Photo		2	7	3	5	1.0	180480	319133	8072	4010	6242	108752	5
379	111620	Photo		3	4	1	14	1.0	105632	147918	3984	2254	3391	48575	2
349	117764	Photo		3	5	5	13	0.0	81856	124753	3000	1637	2718	52477	2
168	135428	Photo		1	9	3	10	0.0	41984	68290	3370	2420	4074	34802	2
3	139441	Photo		2	12	2	10	1.0	50128	87991	2211	790	1119	61027	3

```
sort_column2 = data.sort_values(by = "Type", ascending = True)
sort_column2
```



	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 reac pe who	
438	98195	Link		2	3	6	6	0.0	5730	10083	103	71	97	8964	4
470	91437	Link		1	2	3	13	0.0	9356	14986	448	381	505	13919	8
41	138895	Link		1	12	6	3	1.0	18480	28438	517	366	460	12078	6
43	138353	Link		1	12	5	3	1.0	2645	4270	134	109	170	2330	
45	138353	Link		1	12	4	3	1.0	7968	13023	206	158	223	6734	3
...	
243	130791	Video		1	7	3	11	1.0	21872	40413	3872	3822	7327	24667	12
71	137893	Video		1	11	5	3	1.0	100768	220447	2101	1735	2331	59658	18
183	134879	Video		1	9	2	10	0.0	30624	56950	2080	1956	3253	32033	19
29	138895	Video		1	12	4	11	1.0	36208	61262	1141	1068	1728	30131	14
74	137893	Video		1	11	3	11	0.0	13544	30235	517	458	667	26622	11

495 rows × 19 columns

```
multi_column1 = data.sort_values(by=["Category","like","share","comment"], ascending = False)
multi_column1.head(10)
```



	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	Life pe who	
379	111620	Photo		3	4	1	14	1.0	105632	147918	3984	2254	3391	48575	2
349	117764	Photo		3	5	5	13	0.0	81856	124753	3000	1637	2718	52477	2
460	92507	Photo		3	2	1	13	0.0	55520	665792	4544	3586	6624	648611	4
323	123047	Photo		3	6	1	10	0.0	56672	104966	2579	1334	1850	78678	3
199	132817	Photo		3	8	4	10	0.0	33536	64850	1954	1016	1678	50076	2
176	135195	Photo		3	9	6	3	1.0	22304	37159	1805	984	1618	22864	1
346	117764	Photo		3	5	7	2	0.0	38960	65149	2298	1702	3000	57722	3
191	133679	Photo		3	8	1	10	0.0	19648	33643	1359	695	990	24034	1
254	129600	Photo		3	7	5	3	0.0	54256	82011	1620	963	1419	42128	2
442	98195	Photo		3	3	4	13	0.0	34480	191207	1591	1156	1926	184270	3

```
multi_column2 = data.sort_values(by=["Page total likes","Type"], ascending = True)
multi_column2
```



	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 who	
496	81370	Photo		2	1	5	8	0.0	3480	6229	537	508	687	3961	
497	81370	Photo		1	1	5	2	0.0	3778	7216	625	572	795	4742	
498	81370	Photo		3	1	4	11	0.0	4156	7564	626	574	832	4534	
493	85093	Photo		3	1	1	2	0.0	8412	13960	1179	1111	1632	8632	
494	85093	Photo		3	1	7	10	0.0	5400	9218	810	756	1003	5654	
...	
13	139441	Photo		2	12	5	3	0.0	2549	4896	249	134	168	3631	
1	139441	Status		2	12	3	10	0.0	10460	19057	1457	1361	1674	11710	
5	139441	Status		2	12	1	9	0.0	10472	20849	1191	1073	1389	16034	
8	139441	Status		2	12	7	3	0.0	11844	22538	1530	1407	1692	15220	
10	139441	Status		2	12	5	10	0.0	21744	42334	4258	4100	4540	37849	1

495 rows × 19 columns

```
transposed_data = data.T
transposed_data
```

	0	1	2	3	4	5	6	7	8	9	...	489	490	491	492	493
Page total likes	139441	139441	139441	139441	139441	139441	139441	139441	139441	139441	...	85979	85979	85979	85979	85093
Type	Photo	Status	Photo	Photo	Photo	Status	Photo	Photo	Status	Photo	...	Photo	Photo	Photo	Link	Photo
Category	2	2	3	2	2	2	3	3	2	3	...	3	3	3	1	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	...	7	6	6	5	1
Post Hour	3	10	3	10	3	9	3	9	3	10	...	2	11	3	11	2
Paid	0.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	...	0.0	0.0	1.0	0.0	0.0
Lifetime Post Total Reach	2752	10460	2413	50128	7244	10472	11692	13720	11844	4694	...	4800	5280	6184	45920	8412
Lifetime Post Total Impressions	5091	19057	4373	87991	13594	20849	19479	24137	22538	8668	...	7754	8703	10228	5808	13960
Lifetime Engaged Users	178	1457	177	2211	671	1191	481	537	1530	280	...	975	951	956	753	1175
Lifetime Post Consumers	109	1361	113	790	410	1073	265	232	1407	183	...	938	911	901	655	1111
Lifetime Post Consumptions	159	1674	154	1119	580	1389	364	305	1692	250	...	1278	1237	1140	763	1632
Lifetime Post Impressions by people who have liked your Page	3078	11710	2812	61027	6228	16034	15432	19728	15220	4309	...	4932	5757	6085	15766	8632
Lifetime Post reach by people who like your Page	1640	6112	1503	32048	3200	7852	9328	11056	7912	2324	...	2820	3300	3502	10720	5346
Lifetime People who																

```
melted_data = data.melt(id_vars=['Type'], value_vars=['like', 'share', 'comment'])
melted_data.head()
```

your post																
Type	variable	value	5	0	58	19	1	3	0	0	3	...	1	1	1	0
0	Photo	like	79.0	0.0	66.0	1572.0	325.0	152.0	249.0	325.0	161.0	113.0	...	74.0	79.0	105.0
1	Status	like	130.0	29.0	14.0	147.0	49.0	33.0	27.0	14.0	31.0	26.0	...	28.0	30.0	46.0
2	Photo	share	66.0	100.0	164.0	80	1777	393	186	279	339	192	...	103	110	152
3	Interactions	like	1572.0	164	80	1777	393	186	279	339	192	142	...	103	110	152
4	Photo	like	325.0													

```
pivoted_data = melted_data.pivot_table(index='Type', columns='variable', values='value', aggfunc='sum')
```