

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

```
In [2]: data = pd.read_csv('fb.csv')
```

```
In [3]: print(type(data))
```

<class 'pandas.core.frame.DataFrame'>

```
In [4]: data.shape
```

Out[4]: (500, 19)

```
In [5]: data.head()
```

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	Lifetime P Consum
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 [6]: data.tail()
```

Out[6]:

Page total likes	Type	Category	Post Month	Post Weekday	Post Hour	Paid	Lifetime Post Total Reach	Lifetime Post Total Impressions	Lifetime Engaged Users	Lifetime Consumers
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

In [7]: `data.iloc[2:10,:]`

Out[7]:

Page total likes	Type	Category	Post Month	Post Weekday	Post Hour	Paid	Lifetime Post Total Reach	Lifetime Post Total Impressions	Lifetime Engaged Users	Lifetime Consumers
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
5	139441	Status	2	12	1	9	0.0	10472	20849	1191
6	139441	Photo	3	12	1	3	1.0	11692	19479	481
7	139441	Photo	3	12	7	9	1.0	13720	24137	537
8	139441	Status	2	12	7	3	0.0	11844	22538	1530
9	139441	Photo	3	12	6	10	0.0	4694	8668	280

In [8]: `data.iloc[2:10,1:5]`

Out[8]:

	Type	Category	Post Month	Post Weekday
<b>2</b>	Photo	3	12	3
<b>3</b>	Photo	2	12	2
<b>4</b>	Photo	2	12	2
<b>5</b>	Status	2	12	1
<b>6</b>	Photo	3	12	1
<b>7</b>	Photo	3	12	7
<b>8</b>	Status	2	12	7
<b>9</b>	Photo	3	12	6

In [9]:

`x = data.iloc[2:10,1:5]`

In [10]:

`x.shape`

Out[10]:

`(8, 4)`

In [11]:

`data.iloc[:10,:5]`

Out[11]:

	Page total likes	Type	Category	Post Month	Post Weekday
<b>0</b>	139441	Photo	2	12	4
<b>1</b>	139441	Status	2	12	3
<b>2</b>	139441	Photo	3	12	3
<b>3</b>	139441	Photo	2	12	2
<b>4</b>	139441	Photo	2	12	2
<b>5</b>	139441	Status	2	12	1
<b>6</b>	139441	Photo	3	12	1
<b>7</b>	139441	Photo	3	12	7
<b>8</b>	139441	Status	2	12	7
<b>9</b>	139441	Photo	3	12	6

In [12]:

`data.iloc[12:,:10:]`

Out[12]:

Lifetime Post Consumers	Lifetime Post Consumptions	Lifetime 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	share	Total Interactions
12	115	133	3779	2072	152	0	90.0	14.0
13	134	168	3631	1917	183	5	137.0	10.0
14	337	417	34415	19312	684	2	577.0	20.0
15	1209	1425	17272	8548	1162	4	86.0	18.0
16	123	148	1868	1050	123	2	40.0	12.0
...	...	...	...	...	...	...	...	..
495	708	985	4750	2876	392	5	53.0	26.0
496	508	687	3961	2104	301	0	53.0	22.0
497	572	795	4742	2388	363	4	93.0	18.0
498	574	832	4534	2452	370	7	91.0	38.0
499	524	743	3861	2200	316	0	91.0	28.0

488 rows × 9 columns

◀	▶
In [13]: <code>data.iloc[12:, :]</code>	

Out[13]:

Page total likes	Type	Category	Post Month	Post Weekday	Post Hour	Paid	Lifetime Post Total Reach	Lifetime Post Total Impressions	Lifetime Engaged Users	Lif
12	139441	Photo	2	12	5	10	0.0	2847	5133	193
13	139441	Photo	2	12	5	3	0.0	2549	4896	249
14	138414	Photo	2	12	4	5	1.0	22784	39941	887
15	138414	Status	2	12	3	10	0.0	10060	19680	1264
16	138414	Photo	3	12	3	3	0.0	1722	2981	163
...	...	...	...	...	...	...	...	...	...	...
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

488 rows × 19 columns

◀	▶
---	---

In [14]: `data.iloc[12:20,18]`

```
Out[14]: 12    104
13    152
14    599
15    108
16     54
17    713
18     75
19     42
Name: Total Interactions, dtype: int64
```

In [15]: `data.iloc[:,6]`

```
Out[15]: 0      0.0
         1      0.0
         2      0.0
         3      1.0
         4      0.0
         ...
        495     0.0
        496     0.0
        497     0.0
        498     0.0
        499    NaN
Name: Paid, Length: 500, dtype: float64
```

In [16]: `data.iloc[12:20,[2,5,11,13]]`

Category	Post Hour	Lifetime Post Consumptions	Lifetime Post reach by people who like your Page
12	2	10	133
13	2	3	168
14	2	5	417
15	2	10	1425
16	3	3	148
17	1	12	1655
18	3	3	112
19	3	11	111

In [17]: `data.iloc[[1,2,6,88,12],[2,5,11,13]]`

Category	Post Hour	Lifetime Post Consumptions	Lifetime Post reach by people who like your Page
1	2	10	1674
2	3	3	154
6	3	3	364
88	1	3	1359
12	2	10	133

In [18]: `data.iloc[:, :-12]`

Out[18]:

	Page total likes	Type	Category	Post Month	Post Weekday	Post Hour	Paid
0	139441	Photo	2	12	4	3	0.0
1	139441	Status	2	12	3	10	0.0
2	139441	Photo	3	12	3	3	0.0
3	139441	Photo	2	12	2	10	1.0
4	139441	Photo	2	12	2	3	0.0
...	...	...	...	...	...	...	...
495	85093	Photo	3	1	7	2	0.0
496	81370	Photo	2	1	5	8	0.0
497	81370	Photo	1	1	5	2	0.0
498	81370	Photo	3	1	4	11	0.0
499	81370	Photo	2	1	4	4	NaN

500 rows × 7 columns

In [19]: `data.loc[:, 'Type']`

```
Out[19]: 0      Photo
1      Status
2      Photo
3      Photo
4      Photo
...
495    Photo
496    Photo
497    Photo
498    Photo
499    Photo
Name: Type, Length: 500, dtype: object
```

In [20]: `data.loc[:, ['Type', 'like', 'comment']]`

Out[20]:

	Type	like	comment
<b>0</b>	Photo	79.0	4
<b>1</b>	Status	130.0	5
<b>2</b>	Photo	66.0	0
<b>3</b>	Photo	1572.0	58
<b>4</b>	Photo	325.0	19
...	...	...	...
<b>495</b>	Photo	53.0	5
<b>496</b>	Photo	53.0	0
<b>497</b>	Photo	93.0	4
<b>498</b>	Photo	91.0	7
<b>499</b>	Photo	91.0	0

500 rows × 3 columns

In [21]: `data.loc[100:110, ['Type', 'like', 'comment']]`

Out[21]:

	Type	like	comment
<b>100</b>	Photo	0.0	0
<b>101</b>	Photo	1505.0	26
<b>102</b>	Photo	63.0	2
<b>103</b>	Photo	13.0	0
<b>104</b>	Photo	59.0	4
<b>105</b>	Photo	955.0	42
<b>106</b>	Photo	181.0	9
<b>107</b>	Status	193.0	17
<b>108</b>	Photo	125.0	7
<b>109</b>	Status	217.0	4
<b>110</b>	Photo	28.0	2

In [22]: `data.loc[['Type', 'like', 'comment']]`

```

-----
KeyError                                     Traceback (most recent call last)
~\AppData\Local\Temp\ipykernel_8824\2025241646.py in <module>
----> 1 data.loc[['Type','like','comment']]

C:\ProgramData\Anaconda3\lib\site-packages\pandas\core\indexing.py in __getitem__(self, key)
    965
    966     maybe_callable = com.apply_if_callable(key, self.obj)
--> 967     return self._getitem_axis(maybe_callable, axis=axis)
    968
    969     def _is_scalar_access(self, key: tuple):

C:\ProgramData\Anaconda3\lib\site-packages\pandas\core\indexing.py in _getitem_axis(self, key, axis)
    1192             raise ValueError("Cannot index with multidimensional ke
y")
    1193
--> 1194         return self._getitem_iterable(key, axis=axis)
    1195
    1196     # nested tuple slicing

C:\ProgramData\Anaconda3\lib\site-packages\pandas\core\indexing.py in _getitem_iterable(self, key, axis)
    1130
    1131     # A collection of keys
--> 1132     keyarr, indexer = self._get_listlike_indexer(key, axis)
    1133     return self.obj._reindex_with_indexers(
    1134         {axis: [keyarr, indexer]}, copy=True, allow_dups=True

C:\ProgramData\Anaconda3\lib\site-packages\pandas\core\indexing.py in _get_listlike_indexer(self, key, axis)
    1328         axis_name = self.obj._get_axis_name(axis)
    1329
--> 1330         keyarr, indexer = ax._get_indexer_strict(key, axis_name)
    1331
    1332     return keyarr, indexer

C:\ProgramData\Anaconda3\lib\site-packages\pandas\core\indexes\base.py in _get_indexer_strict(self, key, axis_name)
    5794         keyarr, indexer, new_indexer = self._reindex_non_unique(keyarr)
    5795
--> 5796         self._raise_if_missing(keyarr, indexer, axis_name)
    5797
    5798     keyarr = self.take(indexer)

C:\ProgramData\Anaconda3\lib\site-packages\pandas\core\indexes\base.py in _raise_if_m
issing(self, key, indexer, axis_name)
    5854             if use_interval_msg:
    5855                 key = list(key)
--> 5856             raise KeyError(f"None of [{key}] are in the [{axis_name}]")
    5857
    5858     not_found = list(ensure_index(key)[missing_mask.nonzero()[0]].uni
que())

KeyError: "None of [Index(['Type', 'like', 'comment'], dtype='object')] are in the [i
ndex]"

```

In [23]: data.columns

```
Out[23]: Index(['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', 'share', 'Total Interactions'],  
dtype='object')
```

```
In [24]: a = []  
a.extend(range(2,21))  
a.extend(range(50,70))
```

```
In [25]: data.iloc[a,2:6]
```

Out[25]:

	Category	Post Month	Post Weekday	Post Hour
<b>2</b>	3	12	3	3
<b>3</b>	2	12	2	10
<b>4</b>	2	12	2	3
<b>5</b>	2	12	1	9
<b>6</b>	3	12	1	3
<b>7</b>	3	12	7	9
<b>8</b>	2	12	7	3
<b>9</b>	3	12	6	10
<b>10</b>	2	12	5	10
<b>11</b>	2	12	5	10
<b>12</b>	2	12	5	10
<b>13</b>	2	12	5	3
<b>14</b>	2	12	4	5
<b>15</b>	2	12	3	10
<b>16</b>	3	12	3	3
<b>17</b>	1	12	2	12
<b>18</b>	3	12	2	3
<b>19</b>	3	12	1	11
<b>20</b>	2	12	1	3
<b>50</b>	2	11	1	9
<b>51</b>	1	11	1	3
<b>52</b>	1	11	7	9
<b>53</b>	1	11	7	3
<b>54</b>	1	11	6	10
<b>55</b>	1	11	6	2
<b>56</b>	1	11	5	11
<b>57</b>	1	11	5	3
<b>58</b>	1	11	4	10
<b>59</b>	1	11	4	3
<b>60</b>	1	11	3	11
<b>61</b>	1	11	3	2
<b>62</b>	1	11	2	10
<b>63</b>	1	11	2	3

Category	Post Month	Post Weekday	Post Hour	
64	1	11	1	10
65	1	11	1	3
66	1	11	7	11
67	1	11	7	3
68	1	11	6	11
69	1	11	6	3

```
In [26]: y = data[['Type', 'Category', 'comment', 'like', 'share']]
```

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

```
Out[27]: (500, 5)
```

```
In [28]: y.head()
```

```
Out[28]:
```

	Type	Category	comment	like	share
0	Photo	2	4	79.0	17.0
1	Status	2	5	130.0	29.0
2	Photo	3	0	66.0	14.0
3	Photo	2	58	1572.0	147.0
4	Photo	2	19	325.0	49.0

```
In [29]: z = y[y['like'] > 100]
```

```
In [30]: z.shape
```

```
Out[30]: (252, 5)
```

```
In [31]: z.head()
```

```
Out[31]:
```

	Type	Category	comment	like	share
1	Status	2	5	130.0	29.0
3	Photo	2	58	1572.0	147.0
4	Photo	2	19	325.0	49.0
5	Status	2	1	152.0	33.0
6	Photo	3	3	249.0	27.0

```
In [32]: z = y[(y['like'] > 100) & (y['share'] > 40)]
```

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

Out[33]: (84, 5)

In [34]: `z.head()`

Out[34]:

	Type	Category	comment	like	share
<b>3</b>	Photo	2	58	1572.0	147.0
<b>4</b>	Photo	2	19	325.0	49.0
<b>26</b>	Status	2	10	412.0	72.0
<b>28</b>	Photo	2	36	523.0	63.0
<b>32</b>	Photo	3	2	155.0	47.0

In [35]: `z.to_csv('output.csv', index = False)`

In [36]: `z.to_html('output.html', index = False)`

In [37]: `newdata = pd.read_csv("newfb.csv")`

In [38]: `newdata.shape`

Out[38]: (500, 19)

In [39]: `data.shape`

Out[39]: (500, 19)

In [40]: `merged = data.append(newdata)`

```
C:\Users\surya\AppData\Local\Temp\ipykernel_8824\704272482.py:1: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version.
Use pandas.concat instead.
    merged = data.append(newdata)
```

In [41]: `merged.shape`

Out[41]: (1000, 19)

In [42]: `r = data.drop(['Type', 'comment', 'Category'], axis = 1)`

In [43]: `r.shape`

Out[43]: (500, 16)

In [44]: `r = data.drop([1,2,3,4,5,6,7,8,9])`

In [45]: `r.shape`

Out[45]: (491, 19)

In [46]: `y.shape`

Out[46]: (500, 5)

In [47]: z.shape

Out[47]: (84, 5)

In [48]: r = z.sort\_values(by='comment', ascending=False)

In [49]: r.head()

Out[49]:

	Type	Category	comment	like	share
<b>244</b>	Photo	2	372	5172.0	790.0
<b>460</b>	Photo	3	146	1546.0	181.0
<b>168</b>	Photo	1	144	1622.0	208.0
<b>142</b>	Status	2	60	859.0	90.0
<b>3</b>	Photo	2	58	1572.0	147.0

In [50]: z.shape

Out[50]: (84, 5)

In [51]: r = z.T

In [52]: r.shape

Out[52]: (5, 84)

In [53]: r.head()

Out[53]:

	3	4	26	28	32	56	67	71	72	73	...	462	469
<b>Type</b>	Photo	Photo	Status	Photo	Photo	Photo	Photo	Video	Status	Photo	...	Photo	Photo
<b>Category</b>	2	2	2	2	3	1	1	1	3	1	...	3	3
<b>comment</b>	58	19	10	36	2	2	20	17	3	14	...	19	10
<b>like</b>	1572.0	325.0	412.0	523.0	155.0	164.0	697.0	449.0	226.0	172.0	...	214.0	193.0
<b>share</b>	147.0	49.0	72.0	63.0	47.0	54.0	70.0	84.0	44.0	47.0	...	78.0	61.0

5 rows × 84 columns

In [54]: z.melt()

Out[54]:

	variable	value
<b>0</b>	Type	Photo
<b>1</b>	Type	Photo
<b>2</b>	Type	Status
<b>3</b>	Type	Photo
<b>4</b>	Type	Photo
...	...	...
<b>415</b>	share	99.0
<b>416</b>	share	80.0
<b>417</b>	share	46.0
<b>418</b>	share	55.0
<b>419</b>	share	41.0

420 rows × 2 columns

In [55]:

`r = pd.get_dummies(z)`

In [56]:

`r.head()`

Out[56]:

	Category	comment	like	share	Type_Link	Type_Photo	Type_Status	Type_Video
<b>3</b>	2	58	1572.0	147.0	0	1	0	0
<b>4</b>	2	19	325.0	49.0	0	1	0	0
<b>26</b>	2	10	412.0	72.0	0	0	1	0
<b>28</b>	2	36	523.0	63.0	0	1	0	0
<b>32</b>	3	2	155.0	47.0	0	1	0	0

In [57]:

`dir(z)`

```
Out[57]: ['Category',
 'T',
 'Type',
 '_AXIS_LEN',
 '_AXIS_ORDERS',
 '_AXIS_TO_AXIS_NUMBER',
 '_HANDLED_TYPES',
 '__abs__',
 '__add__',
 '__and__',
 '__annotations__',
 '__array__',
 '__array_priority__',
 '__array_ufunc__',
 '__array_wrap__',
 '__bool__',
 '__class__',
 '__contains__',
 '__copy__',
 '__deepcopy__',
 '__delattr__',
 '__delitem__',
 '__dict__',
 '__dir__',
 '__divmod__',
 '__doc__',
 '__eq__',
 '__finalize__',
 '__floordiv__',
 '__format__',
 '__ge__',
 '__getattr__',
 '__getattribute__',
 '__getitem__',
 '__getstate__',
 '__gt__',
 '__hash__',
 '__iadd__',
 '__iand__',
 '__ifloordiv__',
 '__imod__',
 '__imul__',
 '__init__',
 '__init_subclass__',
 '__invert__',
 '__ior__',
 '__ipow__',
 '__isub__',
 '__iter__',
 '__itruediv__',
 '__ixor__',
 '__le__',
 '__len__',
 '__lt__',
 '__matmul__',
 '__mod__',
 '__module__',
 '__mul__',
 '__ne__',
 '__neg__']
```

```
'__new__',
'__nonzero__',
'__or__',
'__pos__',
'__pow__',
'__radd__',
'__rand__',
'__rdivmod__',
'__reduce__',
'__reduce_ex__',
'__repr__',
'__rfloordiv__',
'__rmatmul__',
'__rmod__',
'__rmul__',
'__ror__',
'__round__',
'__rpow__',
'__rsub__',
'__rtruediv__',
'__rxor__',
'__setattr__',
'__setitem__',
'__setstate__',
'__sizeof__',
'__str__',
'__sub__',
'__subclasshook__',
'__truediv__',
'__weakref__',
'__xor__',
'_accessors',
'_accum_func',
'_add_numeric_operations',
'_agg_by_level',
'_agg_examples_doc',
'_agg_summary_and_see_also_doc',
'_align_frame',
'_align_series',
'_append',
'_arith_method',
'_as_manager',
'_attrs',
'_box_col_values',
'_can_fast_transpose',
'_check_inplace_and_allows_duplicate_labels',
'_check_inplace_setting',
'_check_is_chained_assignment_possible',
'_check_label_or_level_ambiguity',
'_check_setitem_copy',
'_clear_item_cache',
'_clip_with_one_bound',
'_clip_with_scalar',
'_cmp_method',
'_combine_frame',
'_consolidate',
'_consolidate_inplace',
'_construct_axes_dict',
'_construct_axes_from_arguments',
'_construct_result',
```

```
'_constructor',
'_constructor_sliced',
'_convert',
'_count_level',
'_data',
'_dir_additions',
'_dir_deletions',
'_dispatch_frame_op',
'_drop_axis',
'_drop_labels_or_levels',
'_ensure_valid_index',
'_find_valid_index',
'_flags',
'_from_arrays',
'_from_mgr',
'_get_agg_axis',
'_get_axis',
'_get_axis_name',
'_get_axis_number',
'_get_axis_resolvers',
'_get_block_manager_axis',
'_get_bool_data',
'_get_cleaned_column_resolvers',
'_get_column_array',
'_get_index_resolvers',
'_get_item_cache',
'_get_label_or_level_values',
'_get_numeric_data',
'_get_value',
'_getitem_bool_array',
'_getitem_multilevel',
'_gotitem',
'_hidden_attrs',
'_indexed_same',
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'_info_axis_number',
'_info_repr',
'_init_mgr',
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'_internal_names',
'_internal_names_set',
'_is_copy',
'_is_homogeneous_type',
'_is_label_or_level_reference',
'_is_label_reference',
'_is_level_reference',
'_is_mixed_type',
'_is_view',
'_iset_item',
'_iset_item_mgr',
'_iset_not_inplace',
'_item_cache',
'_iter_column_arrays',
'_ixs',
'_join_compat',
'_logical_func',
'_logical_method',
'_maybe_cache_changed',
'_maybe_update_cacher',
```

```
'_metadata',
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'_min_count_stat_function',
'_needs_reindex_multi',
'_protect_consolidate',
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'_reduce_axis1',
'_reindex_axes',
'_reindex_columns',
'_reindex_index',
'_reindex_multi',
'_reindex_with_indexers',
'_rename',
'_replace_columnwise',
'_repr_data_resource_',
'_repr_fits_horizontal_',
'_repr_fits_vertical_',
'_repr_html_',
'_repr_latex_',
'_reset_cache',
'_reset_cacher',
'_sanitize_column',
'_series',
'_set_axis',
'_set_axis_name',
'_set_axis_nocheck',
'_set_is_copy',
'_set_item',
'_set_item_frame_value',
'_set_item_mgr',
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'_setitem_frame',
'_setitem_slice',
'_slice',
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'_stat_axis_number',
'_stat_function',
'_stat_function_ddof',
'_take_with_is_copy',
'_to_dict_of_blocks',
'_typ',
'_update_inplace',
'_validate_dtype',
'_values',
'_where',
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'add_suffix',
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'aggregate',
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'apply',
'applymap',
'asfreq',
```

```
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'cumsum',
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'divide',
'dot',
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'gt',
'head',
```

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'interpolate',
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'isnull',
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'pivot_table',
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'pow',
'prod',
'product',
'quantile',
'query',
```

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'rdiv',
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'reindex_like',
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'rename_axis',
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'replace',
'resample',
'reset_index',
'rfloordiv',
'rmod',
'rmul',
'rolling',
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'rpow',
'rsub',
'rtruediv',
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'sem',
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'set_flags',
'set_index',
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'shift',
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'skew',
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'squeeze',
'stack',
'std',
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'subtract',
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'swapaxes',
'swaplevel',
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'take',
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'to_feather',
'to_gbq',
'to_hdf',
'to_html',
'to_json',
'to_latex',
'to_markdown',
'to_numpy',
'to_parquet',
'to_period',
'to_pickle',
'to_records',
```

```
'to_sql',
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'to_timestamp',
'to_xarray',
'to_xml',
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'transpose',
'truediv',
'truncate',
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'tz_localize',
'unstack',
'update',
'value_counts',
'velues',
'ver',
'where',
'xs']
```

In [58]: `len(dir(z))`

Out[58]: 439

In [ ]: