In [7]:
```
import pandas as pd

bank=pd.read_csv("bank_marketing_dataset.csv")
bank.head()
```

Out[7]:

	age	job	marital	education	default	balance	housing	loan	contact	day	month	duration	ca
0	30	unemployed	married	primary	no	1787	no	no	cellular	19	oct	79.0	
1	33	services	married	secondary	no	4789	yes	yes	cellular	11	may	220.0	
2	35	management	single	tertiary	no	1350	yes	no	cellular	16	apr	185.0	
3	30	management	married	tertiary	no	1476	yes	yes	unknown	3	jun	199.0	
4	59	blue-collar	married	secondary	no	0	yes	no	unknown	5	may	226.0	

In [4]:
```
bank.head(15)
```

Out[4]:

	age	job	marital	education	default	balance	housing	loan	contact	day	month	duration	ca
0	30	unemployed	married	primary	no	1787	no	no	cellular	19	oct	79.0	
1	33	services	married	secondary	no	4789	yes	yes	cellular	11	may	220.0	
2	35	management	single	tertiary	no	1350	yes	no	cellular	16	apr	185.0	
3	30	management	married	tertiary	no	1476	yes	yes	unknown	3	jun	199.0	
4	59	blue-collar	married	secondary	no	0	yes	no	unknown	5	may	226.0	
5	35	management	single	tertiary	no	747	no	no	cellular	23	feb	141.0	
6	36	self-employed	married	tertiary	no	307	yes	no	cellular	14	may	341.0	
7	39	technician	married	secondary	no	147	yes	no	cellular	6	may	151.0	
8	41	entrepreneur	married	tertiary	no	221	yes	no	unknown	14	may	57.0	
9	43	services	married	primary	no	-88	yes	yes	cellular	17	apr	313.0	
10	39	services	married	secondary	no	9374	yes	no	unknown	20	may	273.0	
11	43	admin.	married	secondary	no	264	yes	no	cellular	17	apr	113.0	
12	36	technician	married	tertiary	no	1109	no	no	cellular	13	aug	328.0	
13	20	student	single	secondary	no	502	no	no	cellular	30	apr	261.0	
14	31	blue-collar	married	secondary	no	360	yes	yes	cellular	29	jan	89.0	

In [6]:
```
bank.tail(15)
```

Out[6]:

	age	job	marital	education	default	balance	housing	loan	contact	day	month	duration
4506	42	unemployed	divorced	tertiary	no	-166	no	no	cellular	29	aug	85.0
4507	33	services	married	secondary	no	288	yes	no	cellular	17	apr	306.0
4508	42	admin.	married	unknown	no	642	yes	yes	unknown	16	may	509.0
4509	51	technician	married	tertiary	no	2506	no	no	cellular	30	nov	210.0
4510	36	technician	divorced	secondary	no	566	yes	no	unknown	20	may	129.0
4511	46	blue-collar	married	secondary	no	668	yes	no	unknown	15	may	1263.0
4512	40	blue-collar	married	secondary	no	1100	yes	no	unknown	29	may	660.0
4513	49	blue-collar	married	secondary	no	322	no	no	cellular	14	aug	356.0
4514	38	blue-collar	married	secondary	no	1205	yes	no	cellular	20	apr	45.0
4515	32	services	single	secondary	no	473	yes	no	cellular	7	jul	624.0
4516	33	services	married	secondary	no	-333	yes	no	cellular	30	jul	329.0
4517	57	self-employed	married	tertiary	yes	-3313	yes	yes	unknown	9	may	153.0
4518	57	technician	married	secondary	no	295	no	no	cellular	19	aug	151.0
4519	28	blue-collar	married	secondary	no	1137	no	no	cellular	6	feb	129.0
4520	44	entrepreneur	single	tertiary	no	1136	yes	yes	cellular	3	apr	345.0

In [8]:
```
bank.shape
```

Out[8]:
```
(4521, 17)
```

In [10]:
```
bank.index
```

Out[10]:
```
RangeIndex(start=0, stop=4521, step=1)
```

In [14]:
```
bank.dtypes
```

Out[14]:
```
age            int64
job           object
marital       object
education     object
default       object
balance        int64
housing       object
loan          object
contact       object
day            int64
month         object
duration     float64
campaign       int64
pdays        float64
previous       int64
poutcome      object
y             object
dtype: object
```

In [16]:
```
# dataframas function

bank.columns
```

Out[16]:
```
Index(['age', 'job', 'marital', 'education', 'default', 'balance', 'housing',
       'loan', 'contact', 'day', 'month', 'duration', 'campaign', 'pdays',
       'previous', 'poutcome', 'y'],
      dtype='object')
```

In [24]:
```
bank.axes
```

Out[24]:
```
[RangeIndex(start=0, stop=4521, step=1),
 Index(['age', 'job', 'marital', 'education', 'default', 'balance', 'housing',
        'loan', 'contact', 'day', 'month', 'duration', 'campaign', 'pdays',
        'previous', 'poutcome', 'y'],
       dtype='object')]
```

In [26]:
```
bank.info
```

Out[26]:
```
<bound method DataFrame.info of       age           job  marital  education default  balance  ... duration
mpaign  pdays  previous poutcome    y
0      30    unemployed  married    primary      no     1787  ...     79.0        1   -1.0         0  unkn
no
1      33      services  married  secondary      no     4789  ...    220.0        1  339.0         4  fail
no
2      35    management   single   tertiary      no     1350  ...    185.0        1  330.0         1  fail
no
3      30    management  married   tertiary      no     1476  ...    199.0        4   -1.0         0  unkn
no
4      59   blue-collar  married  secondary      no        0  ...    226.0        1   -1.0         0  unkn
no
...   ...           ...      ...        ...     ...      ...  ...      ...      ...    ...       ...
..
4516   33      services  married  secondary      no     -333  ...    329.0        5   -1.0         0  unkn
no
4517   57  self-employed  married   tertiary     yes    -3313  ...    153.0        1   -1.0         0  unkn
no
4518   57    technician  married  secondary      no      295  ...    151.0       11   -1.0         0  unkn
no
4519   28   blue-collar  married  secondary      no     1137  ...    129.0        4  211.0         3    ot
no
4520   44   entrepreneur   single   tertiary      no     1136  ...    345.0        2  249.0         7    ot
no

[4521 rows x 17 columns]>
```

In [28]:
```
bank.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 4521 entries, 0 to 4520
Data columns (total 17 columns):
 #   Column     Non-Null Count  Dtype  
---  ------     --------------  -----  
 0   age        4521 non-null   int64  
 1   job        4521 non-null   object 
 2   marital    4521 non-null   object 
 3   education  4521 non-null   object 
 4   default    4521 non-null   object 
 5   balance    4521 non-null   int64  
 6   housing    4521 non-null   object 
 7   loan       4521 non-null   object 
 8   contact    4521 non-null   object 
 9   day        4521 non-null   int64  
 10  month      4521 non-null   object 
 11  duration   4521 non-null   float64
 12  campaign   4521 non-null   int64  
 13  pdays      4521 non-null   float64
 14  previous   4521 non-null   int64  
 15  poutcome   4521 non-null   object 
 16  y          4521 non-null   object 
dtypes: float64(2), int64(5), object(10)
memory usage: 423.9+ KB
```

In [10]:
```
bank.get_dtype_counts()
```

```
---------------------------------------------------------------------------
AttributeError                            Traceback (most recent call last)
<ipython-input-10-9df4eac61b2a> in <module>
----> 1 bank.get_dtype_counts()

c:\python 3.8.3\lib\site-packages\pandas\core\generic.py in __getattr__(self, name)
   5272             if self._info_axis._can_hold_identifiers_and_holds_name(name):
   5273                 return self[name]
-> 5274             return object.__getattribute__(self, name)
   5275
   5276     def __setattr__(self, name: str, value) -> None:

AttributeError: 'DataFrame' object has no attribute 'get_dtype_counts'
```