In [3]:
```
import pandas as pd
```

In [4]:
```
pd.__version__
```

Out[4]:
```
'2.2.3'
```

In [7]:
```
df = pd.read_csv("/Users/arsala/Desktop/data.csv")
df
```

Out[7]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup
0	Aruba	ABW	10.244	78.9	High income
1	Afghanistan	AFG	35.253	5.9	Low income
2	Angola	AGO	45.985	19.1	Upper middle income
3	Albania	ALB	12.877	57.2	Upper middle income
4	United Arab Emirates	ARE	11.044	88.0	High income
...	...	...	...	...	...
190	Yemen, Rep.	YEM	32.947	20.0	Lower middle income
191	South Africa	ZAF	20.850	46.5	Upper middle income
192	Congo, Dem. Rep.	COD	42.394	2.2	Low income
193	Zambia	ZMB	40.471	15.4	Lower middle income
194	Zimbabwe	ZWE	35.715	18.5	Low income

195 rows × 5 columns

In [11]:
```
len(df) #it will give records, only number of rows
```

Out[11]:
```
195
```

In [12]:
```
id(df) #DataFrame
```

Out[12]:
```
4746975248
```

In [13]:
```
df.shape #rows x columns
```

Out[13]:
```
(195, 5)
```

In [14]:
```
df
```

Out[14]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup
0	Aruba	ABW	10.244	78.9	High income
1	Afghanistan	AFG	35.253	5.9	Low income
2	Angola	AGO	45.985	19.1	Upper middle income
3	Albania	ALB	12.877	57.2	Upper middle income
4	United Arab Emirates	ARE	11.044	88.0	High income
...	...	...	...	...	...
190	Yemen, Rep.	YEM	32.947	20.0	Lower middle income
191	South Africa	ZAF	20.850	46.5	Upper middle income
192	Congo, Dem. Rep.	COD	42.394	2.2	Low income
193	Zambia	ZMB	40.471	15.4	Lower middle income
194	Zimbabwe	ZWE	35.715	18.5	Low income

195 rows × 5 columns

In [15]:
```
df.rows
```

```
---------------------------------------------------------------------------
AttributeError                            Traceback (most recent call last)
/var/folders/06/c32rgk354z7br65cqt5c_0hm0000gn/T/ipykernel_49621/3342542040.py in ?()
----> 1 df.rows

/opt/anaconda3/lib/python3.13/site-packages/pandas/core/generic.py in ?(self, name)
   6295             and name not in self._accessors
   6296             and self._info_axis._can_hold_identifiers_and_holds_name(name)
   6297         ):
   6298             return self[name]
-> 6299         return object.__getattribute__(self, name)

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

In [17]:
```
df.columns #give columns
```

Out[17]:
```
Index(['CountryName', 'CountryCode', 'BirthRate', 'InternetUsers',
       'IncomeGroup'],
      dtype='object')
```

In [19]:
```
df.shape #rows x columns
```

Out[19]: (195, 5)

In [18]:
```
df.shape[0] #only give number of rows
```

Out[18]: 195

In [20]:
```
len(df.columns)
```

Out[20]: 5

In [ ]:
```
#isnull() is a function of panda which check in datafram or series whethe
```

In [21]:
```
df.isnull() #false:- data present, true:- data missing.,   here data is n
```

Out[21]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup
0	False	False	False	False	False
1	False	False	False	False	False
2	False	False	False	False	False
3	False	False	False	False	False
4	False	False	False	False	False
...	...	...	...	...	...
190	False	False	False	False	False
191	False	False	False	False	False
192	False	False	False	False	False
193	False	False	False	False	False
194	False	False	False	False	False

195 rows × 5 columns

In [ ]:
```
#.sum():- hr values mai true values ko count krta hai
```

In [22]:
```
df.isnull().sum() # No cell is empty
```

Out[22]:
```
CountryName      0
CountryCode      0
BirthRate        0
InternetUsers    0
IncomeGroup      0
dtype: int64
```

In [23]:
```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 195 entries, 0 to 194
Data columns (total 5 columns):
 #   Column         Non-Null Count  Dtype  
---  ------         --------------  -----  
 0   CountryName    195 non-null    object 
 1   CountryCode    195 non-null    object 
 2   BirthRate      195 non-null    float64
 3   InternetUsers  195 non-null    float64
 4   IncomeGroup    195 non-null    object 
dtypes: float64(2), object(3)
memory usage: 7.7+ KB
```

In [ ]:

In [ ]:

In [ ]:

In [ ]:

In [ ]:

In [ ]:

In [ ]:

In [ ]:

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In [ ]: