```
import pandas as pd

stats = pd.read_csv(r"D:\Naresh\20th, 21st\DataFrame_ Pandas\
Data.csv")

stats
```

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

             IncomeGroup
0            High income
1             Low income
2    Upper middle income
3    Upper middle income
4            High income
..                   ...
190  Lower middle income
191  Upper middle income
192           Low income
193  Lower middle income
194           Low income

[195 rows x 5 columns]
```

```
len(stats)
```

```
195
```

```
stats.columns
```

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

```
len(stats.columns)
```

```
5
```

```
stats.head() #top 5 rows will be printed
```

```
            CountryName CountryCode  BirthRate  InternetUsers  \
0                 Aruba         ABW     10.244           78.9
1           Afghanistan         AFG     35.253            5.9
2                Angola         AGO     45.985           19.1
3               Albania         ALB     12.877           57.2
4  United Arab Emirates         ARE     11.044           88.0

           IncomeGroup
0          High income
1           Low income
2  Upper middle income
3  Upper middle income
4          High income
```

```
stats.tail() #last 5 rows will be printed
```

```
          CountryName CountryCode  BirthRate  InternetUsers  \
190       Yemen, Rep.         YEM     32.947           20.0
191      South Africa         ZAF     20.850           46.5
192  Congo, Dem. Rep.         COD     42.394            2.2
193            Zambia         ZMB     40.471           15.4
194          Zimbabwe         ZWE     35.715           18.5

             IncomeGroup
190  Lower middle income
191  Upper middle income
192           Low income
193  Lower middle income
194           Low income
```

```
stats.info()  #strings are called as object
```

```
<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
```

```
stats.describe() #it will work like a statistic fun
```

```
        BirthRate  InternetUsers
count  195.000000     195.000000
mean    21.469928      42.076471
std     10.605467      29.030788
```

```
min      7.900000       0.900000
25%     12.120500      14.520000
50%     19.680000      41.000000
75%     29.759500      66.225000
max     49.661000      96.546800
```

```
stats.describe().transpose() #transpose convert column into rows
```

```
               count       mean        std  min      25%    50%
75%  \
BirthRate      195.0  21.469928  10.605467  7.9  12.1205  19.68
29.7595
InternetUsers  195.0  42.076471  29.030788  0.9  14.5200  41.00
66.2250

                   max
BirthRate      49.6610
InternetUsers  96.5468
```

```
stats.head()
```

```
            CountryName CountryCode  BirthRate  InternetUsers  \
0                 Aruba         ABW     10.244           78.9
1           Afghanistan         AFG     35.253            5.9
2                Angola         AGO     45.985           19.1
3               Albania         ALB     12.877           57.2
4  United Arab Emirates         ARE     11.044           88.0

           IncomeGroup
0          High income
1           Low income
2  Upper middle income
3  Upper middle income
4          High income
```

```
stats.head()
```

```
            CountryName CountryCode  BirthRate  InternetUsers  \
0                 Aruba         ABW     10.244           78.9
1           Afghanistan         AFG     35.253            5.9
2                Angola         AGO     45.985           19.1
3               Albania         ALB     12.877           57.2
4  United Arab Emirates         ARE     11.044           88.0

           IncomeGroup
0          High income
1           Low income
2  Upper middle income
3  Upper middle income
4          High income
```

```
stats.columns = ['a','b','c','d','e']
stats.head()
```

```
                     a    b       c     d                    e
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
```

```
stats.columns = ['CountryName', 'CountryCode', 'BirthRate',
'InternetUsers','IncomeGroup']
stats.head()
```

```
            CountryName CountryCode  BirthRate  InternetUsers  \
0                 Aruba         ABW     10.244           78.9
1           Afghanistan         AFG     35.253            5.9
2                Angola         AGO     45.985           19.1
3               Albania         ALB     12.877           57.2
4  United Arab Emirates         ARE     11.044           88.0

           IncomeGroup
0          High income
1           Low income
2  Upper middle income
3  Upper middle income
4          High income
```

```
stats[21:26] #how python know that only this is rows based on index
```

```
   CountryName CountryCode  BirthRate  InternetUsers
IncomeGroup
21      Belize         BLZ     23.092          33.60  Upper middle
income
22     Bermuda         BMU     10.400          95.30          High
income
23     Bolivia         BOL     24.236          36.94  Lower middle
income
24      Brazil         BRA     14.931          51.04  Upper middle
income
25    Barbados         BRB     12.188          73.00          High
income
```

```
stats[:]
```

```
              CountryName CountryCode  BirthRate  InternetUsers  \
0                   Aruba         ABW     10.244           78.9
1             Afghanistan         AFG     35.253            5.9
2                  Angola         AGO     45.985           19.1
3                 Albania         ALB     12.877           57.2
4    United Arab Emirates         ARE     11.044           88.0
```

```
..                    ...          ...       ...            ...
190           Yemen, Rep.          YEM    32.947           20.0
191          South Africa          ZAF    20.850           46.5
192      Congo, Dem. Rep.          COD    42.394            2.2
193                Zambia          ZMB    40.471           15.4
194              Zimbabwe          ZWE    35.715           18.5
```

```
              IncomeGroup
0             High income
1              Low income
2    Upper middle income
3    Upper middle income
4             High income
..                     ...
190  Lower middle income
191  Upper middle income
192           Low income
193  Lower middle income
194           Low income

[195 rows x 5 columns]
```

```
stats[:10]
```

```
             CountryName CountryCode  BirthRate  InternetUsers  \
0                  Aruba         ABW     10.244        78.9000
1            Afghanistan         AFG     35.253         5.9000
2                 Angola         AGO     45.985        19.1000
3                Albania         ALB     12.877        57.2000
4  United Arab Emirates         ARE     11.044        88.0000
5              Argentina         ARG     17.716        59.9000
6                Armenia         ARM     13.308        41.9000
7   Antigua and Barbuda          ATG     16.447        63.4000
8              Australia         AUS     13.200        83.0000
9                Austria         AUT      9.400        80.6188

            IncomeGroup
0           High income
1            Low income
2  Upper middle income
3  Upper middle income
4           High income
5           High income
6  Lower middle income
7           High income
8           High income
9           High income
```

```
stats.head(10)
```

```
             CountryName CountryCode  BirthRate  InternetUsers  \
0                  Aruba         ABW     10.244        78.9000
1            Afghanistan         AFG     35.253         5.9000
2                 Angola         AGO     45.985        19.1000
3                Albania         ALB     12.877        57.2000
4  United Arab Emirates         ARE     11.044        88.0000
5              Argentina         ARG     17.716        59.9000
6                Armenia         ARM     13.308        41.9000
7   Antigua and Barbuda         ATG     16.447        63.4000
8              Australia         AUS     13.200        83.0000
9                Austria         AUT      9.400        80.6188

            IncomeGroup
0          High income
1           Low income
2  Upper middle income
3  Upper middle income
4          High income
5          High income
6  Lower middle income
7          High income
8          High income
9          High income
```

```
stats[ : : -1]
```

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

             IncomeGroup
194           Low income
193  Lower middle income
192           Low income
191  Upper middle income
190  Lower middle income
..                   ...
4            High income
3    Upper middle income
2    Upper middle income
1             Low income
```

```
0            High income

[195 rows x 5 columns]
```

```
stats
```

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

              IncomeGroup
0             High income
1              Low income
2    Upper middle income
3    Upper middle income
4             High income
..                     ...
190  Lower middle income
191  Upper middle income
192           Low income
193  Lower middle income
194           Low income

[195 rows x 5 columns]
```

```
stats[: : 20]
```

```
    CountryName CountryCode  BirthRate  InternetUsers
IncomeGroup
0         Aruba         ABW     10.244        78.9000          High
income
20      Belarus         BLR     12.500        54.1700  Upper middle
income
40   Costa Rica         CRI     15.022        45.9600  Upper middle
income
60        Gabon         GAB     30.555         9.2000  Upper middle
income
80        India         IND     20.291        15.1000  Lower middle
income
100       Libya         LBY     21.425        16.5000  Upper middle
income
```

```
120  Mozambique          MOZ     39.705          5.4000            Low
income
140      Poland          POL      9.600         62.8492           High
income
160    Suriname          SUR     18.455         37.4000  Upper middle
income
180     Uruguay          URY     14.374         57.6900           High
income
```

```
stats.columns
```

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

```
stats.head()
```

```
             CountryName CountryCode  BirthRate  InternetUsers  \
0                  Aruba         ABW     10.244           78.9
1            Afghanistan         AFG     35.253            5.9
2                 Angola         AGO     45.985           19.1
3                Albania         ALB     12.877           57.2
4  United Arab Emirates         ARE     11.044           88.0

            IncomeGroup
0           High income
1            Low income
2  Upper middle income
3  Upper middle income
4           High income
```

```
stats['CountryName'].head()
```

```
0                    Aruba
1              Afghanistan
2                   Angola
3                  Albania
4    United Arab Emirates
Name: CountryName, dtype: object
```

```
stats[['CountryName','BirthRate']].head()
```

```
             CountryName  BirthRate
0                  Aruba     10.244
1            Afghanistan     35.253
2                 Angola     45.985
3                Albania     12.877
4  United Arab Emirates     11.044
```

```
stats.head()
```

```
            CountryName CountryCode  BirthRate  InternetUsers  \
0                 Aruba         ABW     10.244           78.9
1           Afghanistan         AFG     35.253            5.9
2                Angola         AGO     45.985           19.1
3               Albania         ALB     12.877           57.2
4  United Arab Emirates         ARE     11.044           88.0

           IncomeGroup
0          High income
1           Low income
2  Upper middle income
3  Upper middle income
4          High income
```

```
stats['BirthRate']
```

```
0      10.244
1      35.253
2      45.985
3      12.877
4      11.044
        ...
190    32.947
191    20.850
192    42.394
193    40.471
194    35.715
Name: BirthRate, Length: 195, dtype: float64
```

```
stats[4:8][['CountryName','BirthRate']]
```

```
            CountryName  BirthRate
4  United Arab Emirates     11.044
5             Argentina     17.716
6               Armenia     13.308
7   Antigua and Barbuda     16.447
```

```
stats [['CountryName','BirthRate']][4:8]
```

```
            CountryName  BirthRate
4  United Arab Emirates     11.044
5             Argentina     17.716
6               Armenia     13.308
7   Antigua and Barbuda     16.447
```

```
df1 = stats [['CountryName','BirthRate']]

df1
```

```
              CountryName  BirthRate
0                   Aruba     10.244
```

```
1             Afghanistan     35.253
2                  Angola     45.985
3                 Albania     12.877
4    United Arab Emirates     11.044
..                     ...        ...
190           Yemen, Rep.     32.947
191          South Africa     20.850
192      Congo, Dem. Rep.     42.394
193                Zambia     40.471
194              Zimbabwe     35.715

[195 rows x 2 columns]
```

```
df2 = stats[4:8]
df2
```

```
            CountryName CountryCode  BirthRate  InternetUsers  \
4  United Arab Emirates         ARE     11.044           88.0
5             Argentina         ARG     17.716           59.9
6               Armenia         ARM     13.308           41.9
7   Antigua and Barbuda         ATG     16.447           63.4

           IncomeGroup
4          High income
5          High income
6  Lower middle income
7          High income
```

```
stats[['CountryCode','BirthRate','InternetUsers']][4:8] #subet dataframe
```

```
  CountryCode  BirthRate  InternetUsers
4         ARE     11.044           88.0
5         ARG     17.716           59.9
6         ARM     13.308           41.9
7         ATG     16.447           63.4
```

```
stats.head()
```

```
            CountryName CountryCode  BirthRate  InternetUsers  \
0                 Aruba         ABW     10.244           78.9
1           Afghanistan         AFG     35.253            5.9
2                Angola         AGO     45.985           19.1
3               Albania         ALB     12.877           57.2
4  United Arab Emirates         ARE     11.044           88.0

           IncomeGroup
0          High income
1           Low income
2  Upper middle income
```

```
3  Upper middle income
4          High income
```

```
stats.BirthRate * stats.InternetUsers
```

```
0      808.2516
1      207.9927
2      878.3135
3      736.5644
4      971.8720
         ...
190    658.9400
191    969.5250
192     93.2668
193    623.2534
194    660.7275
Length: 195, dtype: float64
```

```
stats['myCalc'] = stats.BirthRate * stats.InternetUsers
stats.head()
```

```
             CountryName CountryCode  BirthRate  InternetUsers  \
0                  Aruba         ABW     10.244           78.9
1            Afghanistan         AFG     35.253            5.9
2                 Angola         AGO     45.985           19.1
3                Albania         ALB     12.877           57.2
4  United Arab Emirates         ARE     11.044           88.0

           IncomeGroup    myCalc
0          High income  808.2516
1           Low income  207.9927
2  Upper middle income  878.3135
3  Upper middle income  736.5644
4          High income  971.8720
```

```
stats.drop('myCalc',axis = 1)
```

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

             IncomeGroup
```

```
0            High income
1             Low income
2    Upper middle income
3    Upper middle income
4            High income
..                   ...
190  Lower middle income
191  Upper middle income
192           Low income
193  Lower middle income
194           Low income

[195 rows x 5 columns]
```

```
stats = stats.drop('myCalc',axis = 1)
stats.head()
```

```
            CountryName CountryCode  BirthRate  InternetUsers  \
0                 Aruba         ABW     10.244           78.9
1           Afghanistan         AFG     35.253            5.9
2                Angola         AGO     45.985           19.1
3               Albania         ALB     12.877           57.2
4  United Arab Emirates         ARE     11.044           88.0

           IncomeGroup
0          High income
1           Low income
2  Upper middle income
3  Upper middle income
4          High income
```

```
stats.columns[2]
```

```
'BirthRate'
```

```
stats.InternetUsers<2 #we are checking given condition if its correct
true or false
```

```
0      False
1      False
2      False
3      False
4      False
       ...
190    False
191    False
192    False
193    False
194    False
Name: InternetUsers, Length: 195, dtype: bool
```

```
Filter = stats.InternetUsers < 2
Filter
```

```
0      False
1      False
2      False
3      False
4      False
       ...
190    False
191    False
192    False
193    False
194    False
Name: InternetUsers, Length: 195, dtype: bool
```

```
stats[3:7]
```

```
            CountryName CountryCode  BirthRate  InternetUsers  \
3               Albania         ALB     12.877           57.2
4  United Arab Emirates         ARE     11.044           88.0
5             Argentina         ARG     17.716           59.9
6               Armenia         ARM     13.308           41.9

           IncomeGroup
3  Upper middle income
4          High income
5          High income
6  Lower middle income
```

```
stats[30:40]
```

```
      CountryName CountryCode  BirthRate  InternetUsers
IncomeGroup
30         Canada         CAN     10.900          85.80          High
income
31    Switzerland         CHE     10.200          86.34          High
income
32          Chile         CHL     13.385          66.50          High
income
33          China         CHN     12.100          45.80  Upper middle
income
34  Cote d'Ivoire         CIV     37.320           8.40  Lower middle
income
35       Cameroon         CMR     37.236           6.40  Lower middle
income
36    Congo, Rep.         COG     37.011           6.60  Lower middle
income
37       Colombia         COL     16.076          51.70  Upper middle
income
```

```
38        Comoros          COM     34.326            6.50           Low
income
39     Cabo Verde          CPV     21.625           37.50  Lower middle
income
```

```
stats[Filter] # IT WILL take that row which are false
```

```
      CountryName CountryCode  BirthRate  InternetUsers
IncomeGroup
11        Burundi          BDI     44.151             1.3           Low
income
52        Eritrea          ERI     34.800             0.9           Low
income
55       Ethiopia          ETH     32.925             1.9           Low
income
64         Guinea          GIN     37.337             1.6           Low
income
117       Myanmar          MMR     18.119             1.6  Lower middle
income
127         Niger          NER     49.661             1.7           Low
income
154  Sierra Leone          SLE     36.729             1.7           Low
income
156       Somalia          SOM     43.891             1.5           Low
income
172   Timor-Leste          TLS     35.755             1.1  Lower middle
income
```

```
stats.BirthRate>40
```

```
0      False
1      False
2       True
3      False
4      False
       ...
190    False
191    False
192     True
193     True
194    False
Name: BirthRate, Length: 195, dtype: bool
```

```
Filter2 = stats.BirthRate>40
Filter2
```

```
0      False
1      False
2       True
3      False
4      False
```

```
       ...
190    False
191    False
192     True
193     True
194    False
Name: BirthRate, Length: 195, dtype: bool
```

```
stats[Filter2]
```

```
          CountryName CountryCode  BirthRate  InternetUsers  \
2              Angola         AGO     45.985           19.1
11            Burundi         BDI     44.151            1.3
14       Burkina Faso         BFA     40.551            9.1
65        Gambia, The         GMB     42.525           14.0
115              Mali         MLI     44.138            3.5
127             Niger         NER     49.661            1.7
128           Nigeria         NGA     40.045           38.0
156           Somalia         SOM     43.891            1.5
167              Chad         TCD     45.745            2.3
178            Uganda         UGA     43.474           16.2
192  Congo, Dem. Rep.         COD     42.394            2.2
193             Zambia         ZMB     40.471           15.4

             IncomeGroup
2    Upper middle income
11            Low income
14            Low income
65            Low income
115           Low income
127           Low income
128  Lower middle income
156           Low income
167           Low income
178           Low income
192           Low income
193  Lower middle income
```

```
Filter & Filter2
```

```
0      False
1      False
2      False
3      False
4      False
       ...
190    False
191    False
192    False
193    False
```

```
194    False
Length: 195, dtype: bool
```

```
stats[Filter & Filter2]
```

```
    CountryName CountryCode  BirthRate  InternetUsers IncomeGroup
11      Burundi         BDI     44.151            1.3  Low income
127       Niger         NER     49.661            1.7  Low income
156     Somalia         SOM     43.891            1.5  Low income
```

```
stats[(stats.BirthRate > 40) & (stats.InternetUsers < 2)]
```

```
    CountryName CountryCode  BirthRate  InternetUsers IncomeGroup
11      Burundi         BDI     44.151            1.3  Low income
127       Niger         NER     49.661            1.7  Low income
156     Somalia         SOM     43.891            1.5  Low income
```

```
stats.head()
```

```
            CountryName CountryCode  BirthRate  InternetUsers  \
0                 Aruba         ABW     10.244           78.9
1           Afghanistan         AFG     35.253            5.9
2                Angola         AGO     45.985           19.1
3               Albania         ALB     12.877           57.2
4  United Arab Emirates         ARE     11.044           88.0

           IncomeGroup
0          High income
1           Low income
2  Upper middle income
3  Upper middle income
4          High income
```

```
stats[stats.IncomeGroup == 'Low income']
```

```
                  CountryName CountryCode  BirthRate  InternetUsers  \
1                 Afghanistan         AFG     35.253           5.90
11                    Burundi         BDI     44.151           1.30
13                      Benin         BEN     36.440           4.90
14               Burkina Faso         BFA     40.551           9.10
29   Central African Republic         CAF     34.076           3.50
38                    Comoros         COM     34.326           6.50
52                    Eritrea         ERI     34.800           0.90
55                   Ethiopia         ETH     32.925           1.90
64                     Guinea         GIN     37.337           1.60
65                Gambia, The         GMB     42.525          14.00
66              Guinea-Bissau         GNB     37.503           3.10
77                      Haiti         HTI     25.345          10.60
93                   Cambodia         KHM     24.462           6.80
99                    Liberia         LBR     35.521           3.20
111                Madagascar         MDG     34.686           3.00
```

| | | | | |
|---|---|---|---|---|
| 115 | Mali | MLI | 44.138 | 3.50 |
| 120 | Mozambique | MOZ | 39.705 | 5.40 |
| 123 | Malawi | MWI | 39.459 | 5.05 |
| 127 | Niger | NER | 49.661 | 1.70 |
| 132 | Nepal | NPL | 20.923 | 13.30 |
| 148 | Rwanda | RWA | 32.689 | 9.00 |
| 154 | Sierra Leone | SLE | 36.729 | 1.70 |
| 156 | Somalia | SOM | 43.891 | 1.50 |
| 158 | South Sudan | SSD | 37.126 | 14.10 |
| 167 | Chad | TCD | 45.745 | 2.30 |
| 168 | Togo | TGO | 36.080 | 4.50 |
| 177 | Tanzania | TZA | 39.518 | 4.40 |
| 178 | Uganda | UGA | 43.474 | 16.20 |
| 192 | Congo, Dem. Rep. | COD | 42.394 | 2.20 |
| 194 | Zimbabwe | ZWE | 35.715 | 18.50 |

| | IncomeGroup |
|---|---|
| 1 | Low income |
| 11 | Low income |
| 13 | Low income |
| 14 | Low income |
| 29 | Low income |
| 38 | Low income |
| 52 | Low income |
| 55 | Low income |
| 64 | Low income |
| 65 | Low income |
| 66 | Low income |
| 77 | Low income |
| 93 | Low income |
| 99 | Low income |
| 111 | Low income |
| 115 | Low income |
| 120 | Low income |
| 123 | Low income |
| 127 | Low income |
| 132 | Low income |
| 148 | Low income |
| 154 | Low income |
| 156 | Low income |
| 158 | Low income |
| 167 | Low income |
| 168 | Low income |
| 177 | Low income |
| 178 | Low income |
| 192 | Low income |
| 194 | Low income |

```
stats.IncomeGroup.unique()
```

```
array(['High income', 'Low income', 'Upper middle income',
       'Lower middle income'], dtype=object)
```

# Introduction to seaborn # seaborn is very powerfull

visualizatio(STATISTIC VISULAIZATION) pkg in python

```
import matplotlib.pyplot as plt # visulaiztion
import seaborn as sns # distribution visualtion

%matplotlib inline
plt.rcParams['figure.figsize'] = 8,4

stats.head()
```

| | 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 |

```
vis1 = sns.histplot(stats["InternetUsers"])
vis1
```

```
<Axes: xlabel='InternetUsers', ylabel='Density'>
```

```
vis1 = sns.distplot(stats["InternetUsers"])
```

```
C:\Users\DELL\AppData\Local\Temp\ipykernel_21044\1197685782.py:1:
UserWarning:

`distplot` is a deprecated function and will be removed in seaborn
v0.14.0.

Please adapt your code to use either `displot` (a figure-level
function with
similar flexibility) or `histplot` (an axes-level function for
histograms).
```

```
For a guide to updating your code to use the new functions, please see
https://gist.github.com/mwaskom/de44147ed2974457ad6372750bbe5751

  vis1 = sns.distplot(stats["InternetUsers"])
```