

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

```
In [2]: df=pd.read_csv(r'C:\Users\hp\Downloads\data.csv')
```

```
In [3]: df
```

Out[3]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	Unnamed: 5
0	Aruba	ABW	10.244	78.9	High income	808.2516
1	Afghanistan	AFG	35.253	5.9	Low income	207.9927
2	Angola	AGO	45.985	19.1	Upper middle income	878.3135
3	Albania	ALB	12.877	57.2	Upper middle income	736.5644
4	United Arab Emirates	ARE	11.044	88.0	High income	971.8720
...
190	Yemen, Rep.	YEM	32.947	20.0	Lower middle income	658.9400
191	South Africa	ZAF	20.850	46.5	Upper middle income	969.5250
192	Congo, Dem. Rep.	COD	42.394	2.2	Low income	93.2668
193	Zambia	ZMB	40.471	15.4	Lower middle income	623.2534
194	Zimbabwe	ZWE	35.715	18.5	Low income	660.7275

195 rows × 6 columns

```
In [4]: len(df)
```

```
Out[4]: 195
```

```
In [5]: df.columns
```

```
Out[5]: Index(['CountryName', 'CountryCode', 'BirthRate', 'InternetUsers',
               'IncomeGroup', 'Unnamed: 5'],
              dtype='object')
```

```
In [6]: len(df.columns)
```

```
Out[6]: 6
```

```
In [7]: df.head()
```

Out[7]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	Unnamed: 5
0	Aruba	ABW	10.244	78.9	High income	808.2516
1	Afghanistan	AFG	35.253	5.9	Low income	207.9927
2	Angola	AGO	45.985	19.1	Upper middle income	878.3135
3	Albania	ALB	12.877	57.2	Upper middle income	736.5644
4	United Arab Emirates	ARE	11.044	88.0	High income	971.8720

In [8]:

df.tail()

Out[8]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	Unnamed: 5
190	Yemen, Rep.	YEM	32.947	20.0	Lower middle income	658.9400
191	South Africa	ZAF	20.850	46.5	Upper middle income	969.5250
192	Congo, Dem. Rep.	COD	42.394	2.2	Low income	93.2668
193	Zambia	ZMB	40.471	15.4	Lower middle income	623.2534
194	Zimbabwe	ZWE	35.715	18.5	Low income	660.7275

In [9]:

df.info()

```

<class 'pandas.core.frame.DataFrame'>
RangeIndex: 195 entries, 0 to 194
Data columns (total 6 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  
 5   Unnamed: 5        195 non-null    float64 
dtypes: float64(3), object(3)
memory usage: 9.3+ KB

```

In [10]:

df.describe()

Out[10]:

	BirthRate	InternetUsers	Unnamed: 5
count	195.000000	195.000000	195.000000
mean	21.469928	42.076471	653.559009
std	10.605467	29.030788	351.553521
min	7.900000	0.900000	28.990400
25%	12.120500	14.520000	361.263300
50%	19.680000	41.000000	682.074300
75%	29.759500	66.225000	892.690170
max	49.661000	96.546800	1552.589500

In [11]:

df.describe().transpose()

Out[11]:

	count	mean	std	min	25%	50%	75%
BirthRate	195.0	21.469928	10.605467	7.9000	12.1205	19.6800	29.75950
InternetUsers	195.0	42.076471	29.030788	0.9000	14.5200	41.0000	66.22500
Unnamed: 5	195.0	653.559009	351.553521	28.9904	361.2633	682.0743	892.690170

< >

In [12]:

df.columns

Out[12]:

Index(['CountryName', 'CountryCode', 'BirthRate', 'InternetUsers', 'IncomeGroup', 'Unnamed: 5'],
 dtype='object')

In [13]:

df.columns=['a', 'b', 'c', 'd', 'e', 'f']
df.head()

Out[13]:

	a	b	c	d	e	f
0	Aruba	ABW	10.244	78.9	High income	808.2516
1	Afghanistan	AFG	35.253	5.9	Low income	207.9927
2	Angola	AGO	45.985	19.1	Upper middle income	878.3135
3	Albania	ALB	12.877	57.2	Upper middle income	736.5644
4	United Arab Emirates	ARE	11.044	88.0	High income	971.8720

In [14]:

df.columns=['CountryName', 'CountryCode', 'BirthRate', 'InternetUsers', 'IncomeGroup', 'Unnamed:5']

In [15]:

df.head()

Out[15]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	Unnamed:5
0	Aruba	ABW	10.244	78.9	High income	808.2516
1	Afghanistan	AFG	35.253	5.9	Low income	207.9927
2	Angola	AGO	45.985	19.1	Upper middle income	878.3135
3	Albania	ALB	12.877	57.2	Upper middle income	736.5644
4	United Arab Emirates	ARE	11.044	88.0	High income	971.8720

In [16]: `df[21:26]`

Out[16]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	Unnamed:5
21	Belize	BLZ	23.092	33.60	Upper middle income	775.89120
22	Bermuda	BMU	10.400	95.30	High income	991.12000
23	Bolivia	BOL	24.236	36.94	Lower middle income	895.27784
24	Brazil	BRA	14.931	51.04	Upper middle income	762.07824
25	Barbados	BRB	12.188	73.00	High income	889.72400

In [17]: `df[:]`

Out[17]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	Unnamed:5
0	Aruba	ABW	10.244	78.9	High income	808.2516
1	Afghanistan	AFG	35.253	5.9	Low income	207.9927
2	Angola	AGO	45.985	19.1	Upper middle income	878.3135
3	Albania	ALB	12.877	57.2	Upper middle income	736.5644
4	United Arab Emirates	ARE	11.044	88.0	High income	971.8720
...
190	Yemen, Rep.	YEM	32.947	20.0	Lower middle income	658.9400
191	South Africa	ZAF	20.850	46.5	Upper middle income	969.5250
192	Congo, Dem. Rep.	COD	42.394	2.2	Low income	93.2668
193	Zambia	ZMB	40.471	15.4	Lower middle income	623.2534
194	Zimbabwe	ZWE	35.715	18.5	Low income	660.7275

195 rows × 6 columns

In [18]:

df[:10]

Out[18]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	Unnamed:5
0	Aruba	ABW	10.244	78.9000	High income	808.25160
1	Afghanistan	AFG	35.253	5.9000	Low income	207.99270
2	Angola	AGO	45.985	19.1000	Upper middle income	878.31350
3	Albania	ALB	12.877	57.2000	Upper middle income	736.56440
4	United Arab Emirates	ARE	11.044	88.0000	High income	971.87200
5	Argentina	ARG	17.716	59.9000	High income	1061.18840
6	Armenia	ARM	13.308	41.9000	Lower middle income	557.60520
7	Antigua and Barbuda	ATG	16.447	63.4000	High income	1042.73980
8	Australia	AUS	13.200	83.0000	High income	1095.60000
9	Austria	AUT	9.400	80.6188	High income	757.81672

In [19]: `df.head(10)`

Out[19]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	Unnamed:5
0	Aruba	ABW	10.244	78.9000	High income	808.25160
1	Afghanistan	AFG	35.253	5.9000	Low income	207.99270
2	Angola	AGO	45.985	19.1000	Upper middle income	878.31350
3	Albania	ALB	12.877	57.2000	Upper middle income	736.56440
4	United Arab Emirates	ARE	11.044	88.0000	High income	971.87200
5	Argentina	ARG	17.716	59.9000	High income	1061.18840
6	Armenia	ARM	13.308	41.9000	Lower middle income	557.60520
7	Antigua and Barbuda	ATG	16.447	63.4000	High income	1042.73980
8	Australia	AUS	13.200	83.0000	High income	1095.60000
9	Austria	AUT	9.400	80.6188	High income	757.81672

In [20]: `df[::-1]`

Out[20]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	Unnamed:5
194	Zimbabwe	ZWE	35.715	18.5	Low income	660.7275
193	Zambia	ZMB	40.471	15.4	Lower middle income	623.2534
192	Congo, Dem. Rep.	COD	42.394	2.2	Low income	93.2668
191	South Africa	ZAF	20.850	46.5	Upper middle income	969.5250
190	Yemen, Rep.	YEM	32.947	20.0	Lower middle income	658.9400
...
4	United Arab Emirates	ARE	11.044	88.0	High income	971.8720
3	Albania	ALB	12.877	57.2	Upper middle income	736.5644
2	Angola	AGO	45.985	19.1	Upper middle income	878.3135
1	Afghanistan	AFG	35.253	5.9	Low income	207.9927
0	Aruba	ABW	10.244	78.9	High income	808.2516

195 rows × 6 columns

In [21]:

df

Out[21]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	Unnamed:5
0	Aruba	ABW	10.244	78.9	High income	808.2516
1	Afghanistan	AFG	35.253	5.9	Low income	207.9927
2	Angola	AGO	45.985	19.1	Upper middle income	878.3135
3	Albania	ALB	12.877	57.2	Upper middle income	736.5644
4	United Arab Emirates	ARE	11.044	88.0	High income	971.8720
...
190	Yemen, Rep.	YEM	32.947	20.0	Lower middle income	658.9400
191	South Africa	ZAF	20.850	46.5	Upper middle income	969.5250
192	Congo, Dem. Rep.	COD	42.394	2.2	Low income	93.2668
193	Zambia	ZMB	40.471	15.4	Lower middle income	623.2534
194	Zimbabwe	ZWE	35.715	18.5	Low income	660.7275

195 rows × 6 columns

In [22]:

df[::20]

Out[22]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	Unnamed:5
0	Aruba	ABW	10.244	78.9000	High income	808.25160
20	Belarus	BLR	12.500	54.1700	Upper middle income	677.12500
40	Costa Rica	CRI	15.022	45.9600	Upper middle income	690.41112
60	Gabon	GAB	30.555	9.2000	Upper middle income	281.10600
80	India	IND	20.291	15.1000	Lower middle income	306.39410
100	Libya	LBY	21.425	16.5000	Upper middle income	353.51250
120	Mozambique	MOZ	39.705	5.4000	Low income	214.40700
140	Poland	POL	9.600	62.8492	High income	603.35232
160	Suriname	SUR	18.455	37.4000	Upper middle income	690.21700
180	Uruguay	URY	14.374	57.6900	High income	829.23606

```
In [23]: df.columns
```

```
Out[23]: Index(['CountryName', 'CountryCode', 'BirthRate', 'InternetUsers',
       'IncomeGroup', 'Unnamed:5'],
      dtype='object')
```

```
In [24]: df.columns
```

```
Out[24]: Index(['CountryName', 'CountryCode', 'BirthRate', 'InternetUsers',
       'IncomeGroup', 'Unnamed:5'],
      dtype='object')
```

```
In [25]: df['CountryName'].head()
```

```
Out[25]: 0          Aruba
1          Afghanistan
2          Angola
3          Albania
4  United Arab Emirates
Name: CountryName, dtype: object
```

```
In [26]: ['CountryName', 'BirthRate']
```

```
Out[26]: ['CountryName', 'BirthRate']
```

```
In [27]: df[['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

```
In [28]: df['BirthRate']
```

```
Out[28]: 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
```

```
In [29]: df[4:8][['CountryName', 'BirthRate']]
```

Out[29]:

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

In [30]:

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

Out[30]:

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

In [31]:

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

In [32]:

```
df1
```

Out[32]:

	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 × 2 columns

In [33]:

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

In [34]:

```
df2
```

Out[34]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	Unnamed:5
4	United Arab Emirates	ARE	11.044	88.0	High income	971.8720
5	Argentina	ARG	17.716	59.9	High income	1061.1884
6	Armenia	ARM	13.308	41.9	Lower middle income	557.6052
7	Antigua and Barbuda	ATG	16.447	63.4	High income	1042.7398

In [35]: `df.head()`

Out[35]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	Unnamed:5
0	Aruba	ABW	10.244	78.9	High income	808.2516
1	Afghanistan	AFG	35.253	5.9	Low income	207.9927
2	Angola	AGO	45.985	19.1	Upper middle income	878.3135
3	Albania	ALB	12.877	57.2	Upper middle income	736.5644
4	United Arab Emirates	ARE	11.044	88.0	High income	971.8720

In [36]: `df.BirthRate*df.InternetUsers`

Out[36]:

```
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
```

In [37]: `df['myCalc']=df.BirthRate*df.InternetUsers`

In [38]: `df.head()`

Out[38]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	Unnamed:5	
0	Aruba	ABW	10.244	78.9	High income	808.2516	808.2516
1	Afghanistan	AFG	35.253	5.9	Low income	207.9927	207.9927
2	Angola	AGO	45.985	19.1	Upper middle income	878.3135	878.3135
3	Albania	ALB	12.877	57.2	Upper middle income	736.5644	736.5644
4	United Arab Emirates	ARE	11.044	88.0	High income	971.8720	971.8720

In [39]: `df.drop('myCalc', axis=1)`

Out[39]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	Unnamed:5
0	Aruba	ABW	10.244	78.9	High income	808.2516
1	Afghanistan	AFG	35.253	5.9	Low income	207.9927
2	Angola	AGO	45.985	19.1	Upper middle income	878.3135
3	Albania	ALB	12.877	57.2	Upper middle income	736.5644
4	United Arab Emirates	ARE	11.044	88.0	High income	971.8720
...
190	Yemen, Rep.	YEM	32.947	20.0	Lower middle income	658.9400
191	South Africa	ZAF	20.850	46.5	Upper middle income	969.5250
192	Congo, Dem. Rep.	COD	42.394	2.2	Low income	93.2668
193	Zambia	ZMB	40.471	15.4	Lower middle income	623.2534
194	Zimbabwe	ZWE	35.715	18.5	Low income	660.7275

195 rows × 6 columns

In [40]: `df=df.drop('myCalc', axis=1)`

In [41]: `df.head()`

Out[41]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	Unnamed:5
0	Aruba	ABW	10.244	78.9	High income	808.2516
1	Afghanistan	AFG	35.253	5.9	Low income	207.9927
2	Angola	AGO	45.985	19.1	Upper middle income	878.3135
3	Albania	ALB	12.877	57.2	Upper middle income	736.5644
4	United Arab Emirates	ARE	11.044	88.0	High income	971.8720

In [42]: `df.columns[2]`

Out[42]: 'BirthRate'

In [43]: `df.InternetUsers<2`

Out[43]: 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

In [44]: `Filter=df.InternetUsers<2`

In [45]: `Filter`

Out[45]: 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

In [46]: `df[3:7]`

Out[46]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	Unnamed:5
3	Albania	ALB	12.877	57.2	Upper middle income	736.5644
4	United Arab Emirates	ARE	11.044	88.0	High income	971.8720
5	Argentina	ARG	17.716	59.9	High income	1061.1884
6	Armenia	ARM	13.308	41.9	Lower middle income	557.6052

In [47]: df[30:40]

Out[47]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	Unnamed:5
30	Canada	CAN	10.900	85.80	High income	935.2200
31	Switzerland	CHE	10.200	86.34	High income	880.6680
32	Chile	CHL	13.385	66.50	High income	890.1025
33	China	CHN	12.100	45.80	Upper middle income	554.1800
34	Cote d'Ivoire	CIV	37.320	8.40	Lower middle income	313.4880
35	Cameroon	CMR	37.236	6.40	Lower middle income	238.3104
36	Congo, Rep.	COG	37.011	6.60	Lower middle income	244.2726
37	Colombia	COL	16.076	51.70	Upper middle income	831.1292
38	Comoros	COM	34.326	6.50	Low income	223.1190
39	Cabo Verde	CPV	21.625	37.50	Lower middle income	810.9375

In [48]: df[Filter]

Out[48]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	Unnamed:5
11	Burundi	BDI	44.151	1.3	Low income	57.3963
52	Eritrea	ERI	34.800	0.9	Low income	31.3200
55	Ethiopia	ETH	32.925	1.9	Low income	62.5575
64	Guinea	GIN	37.337	1.6	Low income	59.7392
117	Myanmar	MMR	18.119	1.6	Lower middle income	28.9904
127	Niger	NER	49.661	1.7	Low income	84.4237
154	Sierra Leone	SLE	36.729	1.7	Low income	62.4393
156	Somalia	SOM	43.891	1.5	Low income	65.8365
172	Timor-Leste	TLS	35.755	1.1	Lower middle income	39.3305

In [49]: `df.BirthRate>40`

Out[49]:

```
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
```

In [50]: `Filter2=df.BirthRate>40`

In [51]: `Filter2`

Out[51]:

```
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
```

In [52]: `df[Filter2]`

Out[52]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	Unnamed:5
2	Angola	AGO	45.985	19.1	Upper middle income	878.3135
11	Burundi	BDI	44.151	1.3	Low income	57.3963
14	Burkina Faso	BFA	40.551	9.1	Low income	369.0141
65	Gambia, The	GMB	42.525	14.0	Low income	595.3500
115	Mali	MLI	44.138	3.5	Low income	154.4830
127	Niger	NER	49.661	1.7	Low income	84.4237
128	Nigeria	NGA	40.045	38.0	Lower middle income	1521.7100
156	Somalia	SOM	43.891	1.5	Low income	65.8365
167	Chad	TCD	45.745	2.3	Low income	105.2135
178	Uganda	UGA	43.474	16.2	Low income	704.2788
192	Congo, Dem. Rep.	COD	42.394	2.2	Low income	93.2668
193	Zambia	ZMB	40.471	15.4	Lower middle income	623.2534

In [53]: `Filter&Filter2`

```
Out[53]: 0    False
1    False
2    False
3    False
4    False
...
190   False
191   False
192   False
193   False
194   False
Length: 195, dtype: bool
```

In [54]: `df[Filter&Filter2]`

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	Unnamed:5
11	Burundi	BDI	44.151	1.3	Low income	57.3963
127	Niger	NER	49.661	1.7	Low income	84.4237
156	Somalia	SOM	43.891	1.5	Low income	65.8365

In [55]: `df[(df.BirthRate>40)&(df.InternetUsers<2)]`

Out[55]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	Unnamed:5
11	Burundi	BDI	44.151	1.3	Low income	57.3963
127	Niger	NER	49.661	1.7	Low income	84.4237
156	Somalia	SOM	43.891	1.5	Low income	65.8365

In [56]: `df.head()`

Out[56]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	Unnamed:5
0	Aruba	ABW	10.244	78.9	High income	808.2516
1	Afghanistan	AFG	35.253	5.9	Low income	207.9927
2	Angola	AGO	45.985	19.1	Upper middle income	878.3135
3	Albania	ALB	12.877	57.2	Upper middle income	736.5644
4	United Arab Emirates	ARE	11.044	88.0	High income	971.8720

In [57]: `df[df.IncomeGroup=='Low income']`

Out[57]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	Unnamed:5
1	Afghanistan	AFG	35.253	5.90	Low income	207.99270
11	Burundi	BDI	44.151	1.30	Low income	57.39630
13	Benin	BEN	36.440	4.90	Low income	178.55600
14	Burkina Faso	BFA	40.551	9.10	Low income	369.01410
29	Central African Republic	CAF	34.076	3.50	Low income	119.26600
38	Comoros	COM	34.326	6.50	Low income	223.11900
52	Eritrea	ERI	34.800	0.90	Low income	31.32000
55	Ethiopia	ETH	32.925	1.90	Low income	62.55750
64	Guinea	GIN	37.337	1.60	Low income	59.73920
65	Gambia, The	GMB	42.525	14.00	Low income	595.35000
66	Guinea-Bissau	GNB	37.503	3.10	Low income	116.25930
77	Haiti	HTI	25.345	10.60	Low income	268.65700
93	Cambodia	KHM	24.462	6.80	Low income	166.34160
99	Liberia	LBR	35.521	3.20	Low income	113.66720
111	Madagascar	MDG	34.686	3.00	Low income	104.05800
115	Mali	MLI	44.138	3.50	Low income	154.48300
120	Mozambique	MOZ	39.705	5.40	Low income	214.40700
123	Malawi	MWI	39.459	5.05	Low income	199.26795
127	Niger	NER	49.661	1.70	Low income	84.42370
132	Nepal	NPL	20.923	13.30	Low income	278.27590
148	Rwanda	RWA	32.689	9.00	Low income	294.20100
154	Sierra Leone	SLE	36.729	1.70	Low income	62.43930
156	Somalia	SOM	43.891	1.50	Low income	65.83650
158	South Sudan	SSD	37.126	14.10	Low income	523.47660
167	Chad	TCD	45.745	2.30	Low income	105.21350
168	Togo	TGO	36.080	4.50	Low income	162.36000
177	Tanzania	TZA	39.518	4.40	Low income	173.87920
178	Uganda	UGA	43.474	16.20	Low income	704.27880
192	Congo, Dem. Rep.	COD	42.394	2.20	Low income	93.26680
194	Zimbabwe	ZWE	35.715	18.50	Low income	660.72750

In [58]:

df.IncomeGroup.unique()

```
Out[58]: array(['High income', 'Low income', 'Upper middle income',
       'Lower middle income'], dtype=object)
```

Introduction to seaborn

```
In [60]: import matplotlib.pyplot as plt
import seaborn as sns
```

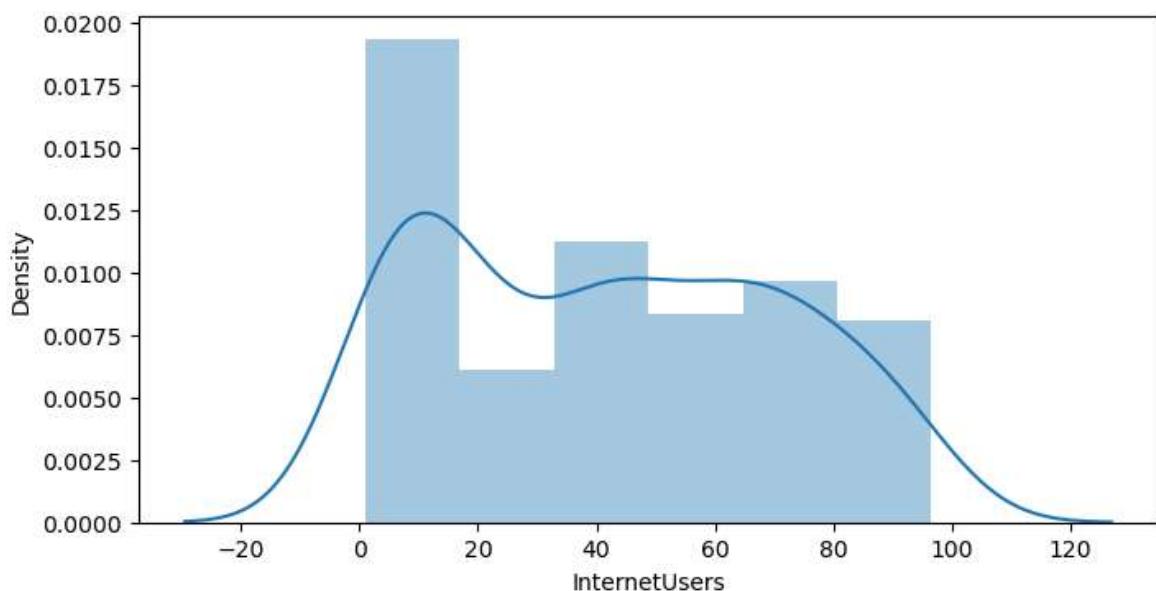
```
In [61]: %matplotlib inline
plt.rcParams['figure.figsize']=8,4
```

```
In [62]: import warnings
warnings.filterwarnings('ignore')
```

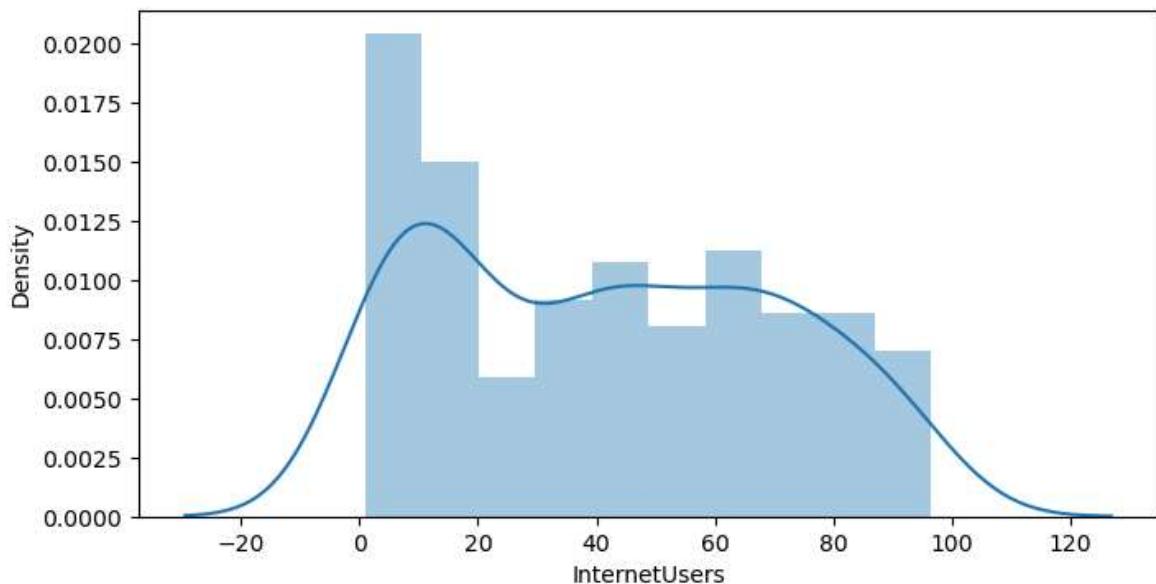
```
In [63]: df.head()
```

```
Out[63]:   CountryName  CountryCode  BirthRate  InternetUsers  IncomeGroup  Unnamed:5
0      Aruba        ABW      10.244        78.9  High income  808.2516
1  Afghanistan      AFG      35.253        5.9  Low income  207.9927
2      Angola        AGO      45.985       19.1  Upper middle
3      Albania        ALB      12.877       57.2  Upper middle
4  United Arab
   Emirates        ARE      11.044       88.0  High income  971.8720
```

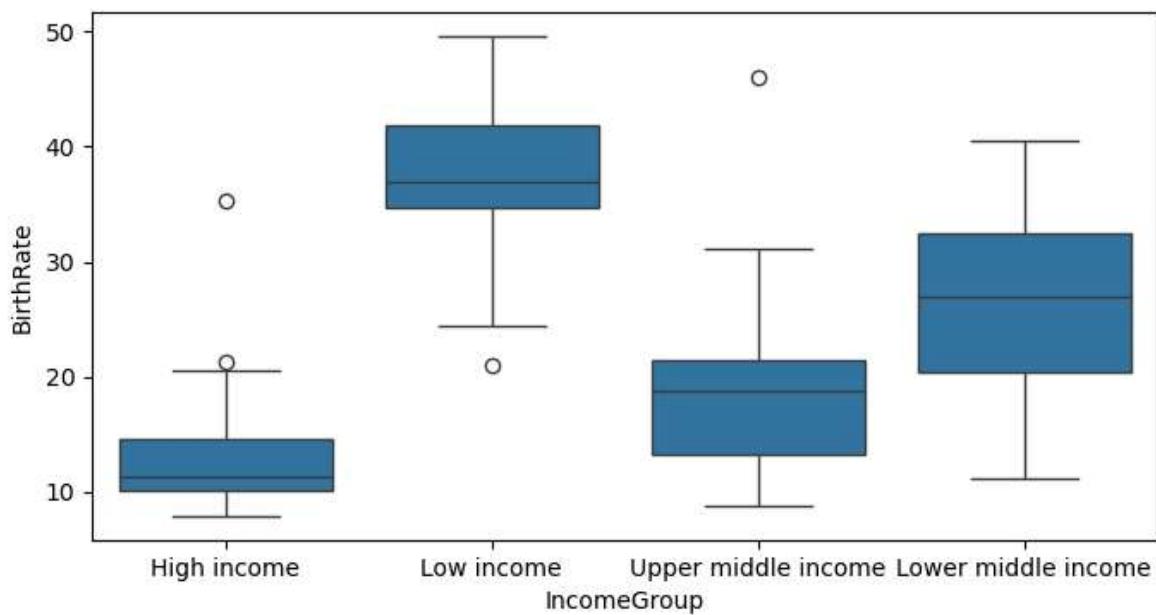
```
In [64]: vis1=sns.distplot(df["InternetUsers"])
```



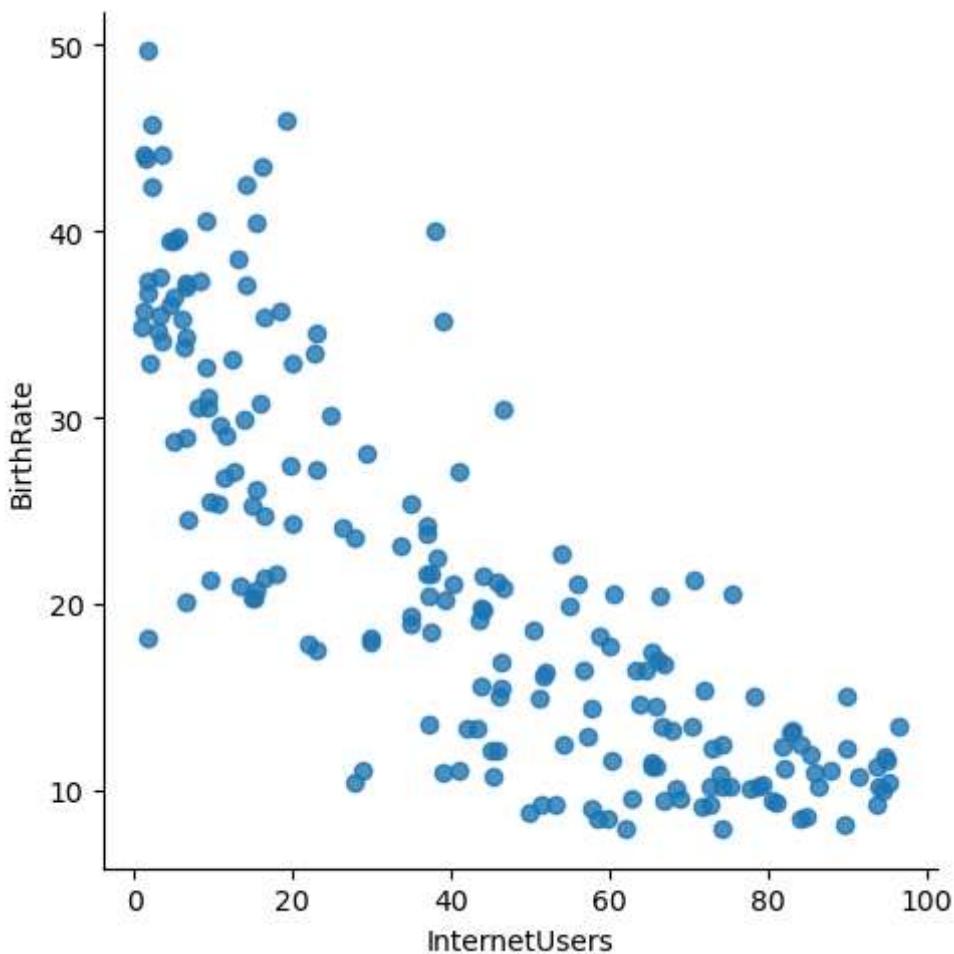
```
In [65]: vis1=sns.distplot(df["InternetUsers"], bins=10)
```



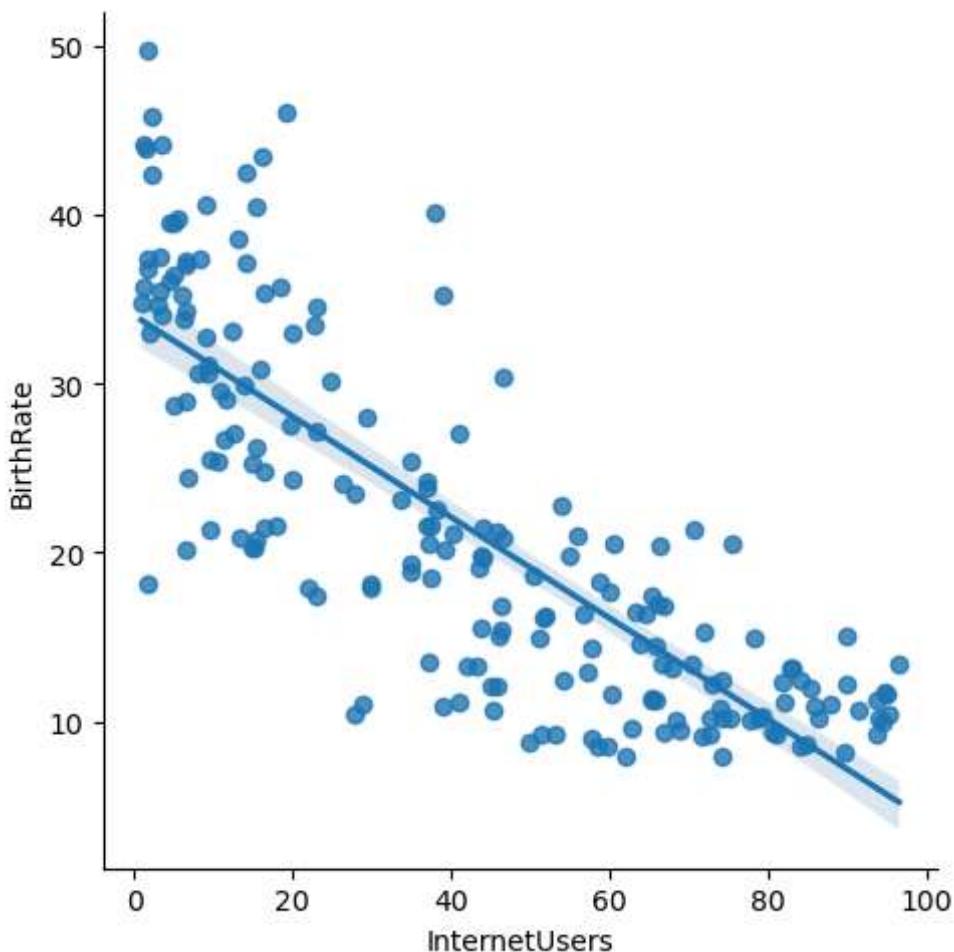
```
In [66]: vis2=sns.boxplot(data=df,x="IncomeGroup",y='BirthRate')
```



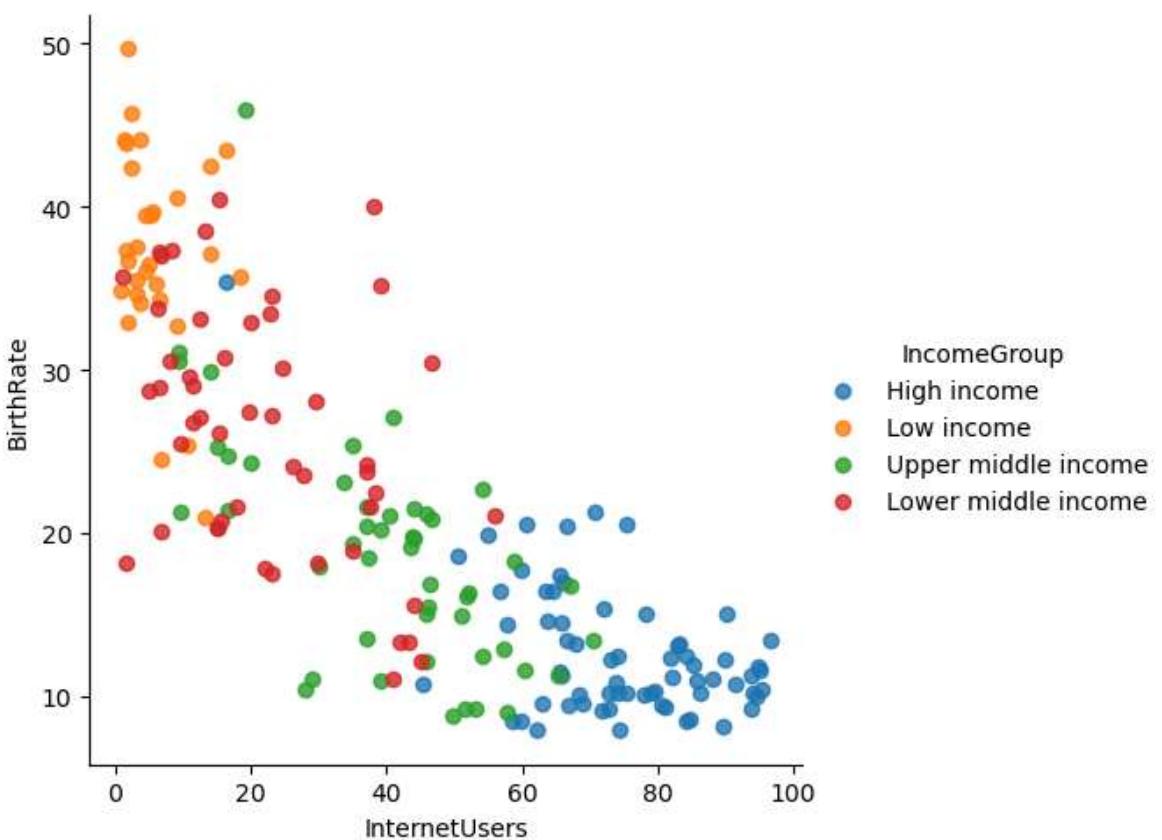
```
In [67]: vis3=sns.lmplot(data=df,x='InternetUsers',y='BirthRate',fit_reg=False)
```



```
In [68]: vis4=sns.lmplot(data=df,x='InternetUsers',y='BirthRate')
```



```
In [69]: vis5=sns.lmplot(data=df,x='InternetUsers',y='BirthRate',fit_reg=False,hue='IncomeGroup')
```



Completed