

```
In [1]: import pandas as pd # importing Pandas
```

```
In [7]: stats = pd.read_csv(r'C:/Users/abhin/Desktop/Full Stack DS & AI/Works/CSV/DemographicData.csv')
# Reading the csv file and impoting the dataframe for the excel sheet
```

```
In [8]: stats
```

Out[8]:

	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 [9]: stats.shape # No of rows ans columns
```

Out[9]: (195, 5)

```
In [10]: len(stats) # No Of Rows
```

Out[10]: 195

```
In [11]: stats.columns # Column Names
```

Out[11]: Index(['CountryName', 'CountryCode', 'BirthRate', 'InternetUsers', 'IncomeGroup'], dtype='object')

```
In [12]: len(stats.columns) # No Of Columns
```

Out[12]: 5

```
In [13]: type(stats)
```

Out[13]: pandas.core.frame.DataFrame

```
In [14]: stats.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 [15]: stats.head()
```

Out[15]:

	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

In [20]:

```
stats.head(3)
```

Out[20]:

	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

In [21]:

```
stats.tail()
```

Out[21]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup
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

In [23]:

```
stats.tail(4)
```

Out[23]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup
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

In [25]:

```
stats.head(15)
```

Out[25]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup
0	Aruba	ABW	10.244	78.9000	High income
1	Afghanistan	AFG	35.253	5.9000	Low income
2	Angola	AGO	45.985	19.1000	Upper middle income
3	Albania	ALB	12.877	57.2000	Upper middle income
4	United Arab Emirates	ARE	11.044	88.0000	High income
5	Argentina	ARG	17.716	59.9000	High income
6	Armenia	ARM	13.308	41.9000	Lower middle income
7	Antigua and Barbuda	ATG	16.447	63.4000	High income
8	Australia	AUS	13.200	83.0000	High income
9	Austria	AUT	9.400	80.6188	High income
10	Azerbaijan	AZE	18.300	58.7000	Upper middle income
11	Burundi	BDI	44.151	1.3000	Low income
12	Belgium	BEL	11.200	82.1702	High income
13	Benin	BEN	36.440	4.9000	Low income
14	Burkina Faso	BFA	40.551	9.1000	Low income

In [26]:

```
stats.tail(15)
```

Out[26]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup
180	Uruguay	URY	14.374	57.69	High income
181	United States	USA	12.500	84.20	High income
182	Uzbekistan	UZB	22.500	38.20	Lower middle income
183	St. Vincent and the Grenadines	VCT	16.306	52.00	Upper middle income
184	Venezuela, RB	VEN	19.842	54.90	High income
185	Virgin Islands (U.S.)	VIR	10.700	45.30	High income
186	Vietnam	VNM	15.537	43.90	Lower middle income
187	Vanuatu	VUT	26.739	11.30	Lower middle income
188	West Bank and Gaza	PSE	30.394	46.60	Lower middle income
189	Samoa	WSM	26.172	15.30	Lower middle income
190	Yemen, Rep.	YEM	32.947	20.00	Lower middle income
191	South Africa	ZAF	20.850	46.50	Upper middle income
192	Congo, Dem. Rep.	COD	42.394	2.20	Low income
193	Zambia	ZMB	40.471	15.40	Lower middle income
194	Zimbabwe	ZWE	35.715	18.50	Low income

In [27]:

```
stats.describe()
```

Out[27]:

	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

In [28]:

```
stats.describe().transpose()
```

Out[28]:

	count	mean	std	min	25%	50%	75%	max
BirthRate	195.0	21.469928	10.605467	7.9	12.1205	19.68	29.7595	49.6610
InternetUsers	195.0	42.076471	29.030788	0.9	14.5200	41.00	66.2250	96.5468

In [29]:

```
stats.columns
```

Out[29]:

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

In [30]:

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

In [31]:

```
stats.columns
```

Out[31]:

```
Index(['a', 'b', 'c', 'd', 'e'], dtype='object')
```

In [32]:

```
stats.head()
```

Out[32]:

	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

In [33]:

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

In [34]:

```
stats.columns
```

```
Out[34]: Index(['CountryName', 'CountryCode', 'BirthRate', 'InternetUsers',
      'IncomeGroup'],
      dtype='object')
```

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

Out[35]:

	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

```
In [36]: stats[0:5]
```

Out[36]:

	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

```
In [37]: stats[:]
```

Out[37]:

	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 [38]: stats[10:15]
```

Out[38]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup
10	Azerbaijan	AZE	18.300	58.7000	Upper middle income
11	Burundi	BDI	44.151	1.3000	Low income
12	Belgium	BEL	11.200	82.1702	High income
13	Benin	BEN	36.440	4.9000	Low income
14	Burkina Faso	BFA	40.551	9.1000	Low income

```
In [39]: stats[:15]
```

Out[39]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup
0	Aruba	ABW	10.244	78.9000	High income
1	Afghanistan	AFG	35.253	5.9000	Low income
2	Angola	AGO	45.985	19.1000	Upper middle income
3	Albania	ALB	12.877	57.2000	Upper middle income
4	United Arab Emirates	ARE	11.044	88.0000	High income
5	Argentina	ARG	17.716	59.9000	High income
6	Armenia	ARM	13.308	41.9000	Lower middle income
7	Antigua and Barbuda	ATG	16.447	63.4000	High income
8	Australia	AUS	13.200	83.0000	High income
9	Austria	AUT	9.400	80.6188	High income
10	Azerbaijan	AZE	18.300	58.7000	Upper middle income
11	Burundi	BDI	44.151	1.3000	Low income
12	Belgium	BEL	11.200	82.1702	High income
13	Benin	BEN	36.440	4.9000	Low income
14	Burkina Faso	BFA	40.551	9.1000	Low income

In [40]:

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

Out[40]:

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

195 rows × 5 columns

In [41]:

```
stats[::10]
```

Out[41]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup
0	Aruba	ABW	10.244	78.900000	High income
10	Azerbaijan	AZE	18.300	58.700000	Upper middle income
20	Belarus	BLR	12.500	54.170000	Upper middle income
30	Canada	CAN	10.900	85.800000	High income
40	Costa Rica	CRI	15.022	45.960000	Upper middle income
50	Ecuador	ECU	21.070	40.353684	Upper middle income
60	Gabon	GAB	30.555	9.200000	Upper middle income
70	Greenland	GRL	14.500	65.800000	High income
80	India	IND	20.291	15.100000	Lower middle income
90	Kazakhstan	KAZ	22.730	54.000000	Upper middle income
100	Libya	LBY	21.425	16.500000	Upper middle income
110	Moldova	MDA	12.141	45.000000	Lower middle income
120	Mozambique	MOZ	39.705	5.400000	Low income
130	Netherlands	NLD	10.200	93.956400	High income
140	Poland	POL	9.600	62.849200	High income
150	Sudan	SDN	33.477	22.700000	Lower middle income
160	Suriname	SUR	18.455	37.400000	Upper middle income
170	Tajikistan	TJK	30.792	16.000000	Lower middle income
180	Uruguay	URY	14.374	57.690000	High income
190	Yemen, Rep.	YEM	32.947	20.000000	Lower middle income

In [42]:

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

Out[42]:

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

In [43]:

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

Out[43]:

	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 [44]:

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

Out[44]:

```
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 [45]:

```
stats[5:10][['CountryName','BirthRate']]
```

Out[45]:

	CountryName	BirthRate
5	Argentina	17.716
6	Armenia	13.308
7	Antigua and Barbuda	16.447
8	Australia	13.200
9	Austria	9.400

In [46]:

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

In [47]:

```
df1
```

Out[47]:

	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 [48]:

```
df2 = stats[5:10]
```

In [49]:

```
df2
```

Out[49]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup
5	Argentina	ARG	17.716	59.9000	High income
6	Armenia	ARM	13.308	41.9000	Lower middle income
7	Antigua and Barbuda	ATG	16.447	63.4000	High income
8	Australia	AUS	13.200	83.0000	High income
9	Austria	AUT	9.400	80.6188	High income

In [51]:

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

Out[51]:

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 [52]:

```
stats['calc'] = stats.BirthRate * stats.InternetUsers
```

In [53]:

```
stats.head()
```

Out[53]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	calc
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 [54]:

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

Out[54]:

	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 [61]:

```
stats.head()
```

Out[61]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	calc
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 [62]:

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

In [63]:

```
stats.head()
```

Out[63]:

	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

In [55]:

```
stats.columns[3]
```

Out[55]:

'InternetUsers'

In [65]:

```
stats.InternetUsers > 10
```

Out[65]:

0	True
1	False
2	True
3	True
4	True
...	...
190	True
191	True
192	False
193	True
194	True

Name: InternetUsers, Length: 195, dtype: bool



```
In [66]: Filter = stats.InternetUsers > 10
```

```
In [67]: Filter
```

```
Out[67]: 0      True
1      False
2      True
3      True
4      True
...
190    True
191    True
192    False
193    True
194    True
Name: InternetUsers, Length: 195, dtype: bool
```

```
In [70]: stats[Filter]
```

Out[70]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup
0	Aruba	ABW	10.244	78.9	High 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
5	Argentina	ARG	17.716	59.9	High income
...	...	...	...	...	...
189	Samoa	WSM	26.172	15.3	Lower middle income
190	Yemen, Rep.	YEM	32.947	20.0	Lower middle income
191	South Africa	ZAF	20.850	46.5	Upper middle income
193	Zambia	ZMB	40.471	15.4	Lower middle income
194	Zimbabwe	ZWE	35.715	18.5	Low income

157 rows × 5 columns

```
In [74]: stats.BirthRate > 30
```

```
Out[74]: 0      False
1      True
2      True
3      False
4      False
...
190    True
191    False
192    True
193    True
194    True
Name: BirthRate, Length: 195, dtype: bool
```

```
In [75]: Filter2 = stats.BirthRate > 30
```

```
In [76]: Filter2
```

```
Out[76]: 0      False
1      True
2      True
3      False
4      False
...
190    True
191    False
192    True
193    True
194    True
Name: BirthRate, Length: 195, dtype: bool
```

```
In [77]: stats[Filter2]
```

Out[77]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup
1	Afghanistan	AFG	35.253	5.90	Low income
2	Angola	AGO	45.985	19.10	Upper middle income
11	Burundi	BDI	44.151	1.30	Low income
13	Benin	BEN	36.440	4.90	Low income
14	Burkina Faso	BFA	40.551	9.10	Low income
29	Central African Republic	CAF	34.076	3.50	Low 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
38	Comoros	COM	34.326	6.50	Low income
52	Eritrea	ERI	34.800	0.90	Low income
55	Ethiopia	ETH	32.925	1.90	Low income
60	Gabon	GAB	30.555	9.20	Upper middle income
63	Ghana	GHA	33.131	12.30	Lower middle income
64	Guinea	GIN	37.337	1.60	Low income
65	Gambia, The	GMB	42.525	14.00	Low income
66	Guinea-Bissau	GNB	37.503	3.10	Low income
67	Equatorial Guinea	GNQ	35.362	16.40	High income
83	Iraq	IRQ	31.093	9.20	Upper middle income
91	Kenya	KEN	35.194	39.00	Lower middle income
99	Liberia	LBR	35.521	3.20	Low income
111	Madagascar	MDG	34.686	3.00	Low income
115	Mali	MLI	44.138	3.50	Low income
120	Mozambique	MOZ	39.705	5.40	Low income
121	Mauritania	MRT	33.801	6.20	Lower middle income
123	Malawi	MWI	39.459	5.05	Low income
127	Niger	NER	49.661	1.70	Low income
128	Nigeria	NGA	40.045	38.00	Lower middle income
148	Rwanda	RWA	32.689	9.00	Low income
150	Sudan	SDN	33.477	22.70	Lower middle income
151	Senegal	SEN	38.533	13.10	Lower middle income
153	Solomon Islands	SLB	30.578	8.00	Lower middle income
154	Sierra Leone	SLE	36.729	1.70	Low income
156	Somalia	SOM	43.891	1.50	Low income
158	South Sudan	SSD	37.126	14.10	Low income
159	Sao Tome and Principe	STP	34.537	23.00	Lower middle income
164	Swaziland	SWZ	30.093	24.70	Lower middle income
167	Chad	TCD	45.745	2.30	Low income
168	Togo	TGO	36.080	4.50	Low income
170	Tajikistan	TJK	30.792	16.00	Lower middle income
172	Timor-Leste	TLS	35.755	1.10	Lower middle income
177	Tanzania	TZA	39.518	4.40	Low income
178	Uganda	UGA	43.474	16.20	Low income
188	West Bank and Gaza	PSE	30.394	46.60	Lower middle income
190	Yemen, Rep.	YEM	32.947	20.00	Lower middle income
192	Congo, Dem. Rep.	COD	42.394	2.20	Low income
193	Zambia	ZMB	40.471	15.40	Lower middle income
194	Zimbabwe	ZWE	35.715	18.50	Low income

In [78]:

Filter & Filter2

```
Out[78]: 0      False
1      False
2       True
3      False
4      False
...
190     True
191    False
192    False
193     True
194     True
Length: 195, dtype: bool
```

```
In [80]: stats[Filter & Filter2]
```

Out[80]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup
2	Angola	AGO	45.985	19.1	Upper middle income
63	Ghana	GHA	33.131	12.3	Lower middle income
65	Gambia, The	GMB	42.525	14.0	Low income
67	Equatorial Guinea	GNQ	35.362	16.4	High income
91	Kenya	KEN	35.194	39.0	Lower middle income
128	Nigeria	NGA	40.045	38.0	Lower middle income
150	Sudan	SDN	33.477	22.7	Lower middle income
151	Senegal	SEN	38.533	13.1	Lower middle income
158	South Sudan	SSD	37.126	14.1	Low income
159	Sao Tome and Principe	STP	34.537	23.0	Lower middle income
164	Swaziland	SWZ	30.093	24.7	Lower middle income
170	Tajikistan	TJK	30.792	16.0	Lower middle income
178	Uganda	UGA	43.474	16.2	Low income
188	West Bank and Gaza	PSE	30.394	46.6	Lower middle income
190	Yemen, Rep.	YEM	32.947	20.0	Lower middle income
193	Zambia	ZMB	40.471	15.4	Lower middle income
194	Zimbabwe	ZWE	35.715	18.5	Low income

```
In [82]: stats[(stats.BirthRate > 30) & (stats.InternetUsers > 10)]
```

Out[82]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup
2	Angola	AGO	45.985	19.1	Upper middle income
63	Ghana	GHA	33.131	12.3	Lower middle income
65	Gambia, The	GMB	42.525	14.0	Low income
67	Equatorial Guinea	GNQ	35.362	16.4	High income
91	Kenya	KEN	35.194	39.0	Lower middle income
128	Nigeria	NGA	40.045	38.0	Lower middle income
150	Sudan	SDN	33.477	22.7	Lower middle income
151	Senegal	SEN	38.533	13.1	Lower middle income
158	South Sudan	SSD	37.126	14.1	Low income
159	Sao Tome and Principe	STP	34.537	23.0	Lower middle income
164	Swaziland	SWZ	30.093	24.7	Lower middle income
170	Tajikistan	TJK	30.792	16.0	Lower middle income
178	Uganda	UGA	43.474	16.2	Low income
188	West Bank and Gaza	PSE	30.394	46.6	Lower middle income
190	Yemen, Rep.	YEM	32.947	20.0	Lower middle income
193	Zambia	ZMB	40.471	15.4	Lower middle income
194	Zimbabwe	ZWE	35.715	18.5	Low income

```
In [85]: stats[stats.IncomeGroup == 'Low income']
```

Out[85]:

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

In [86]:

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

In [87]:

```
unique
```

Out[87]:

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

In [88]:

```
import matplotlib.pyplot as plt
```

In [89]:

```
import seaborn as sns
```

In [90]:

```
import warnings
```

In [91]:

```
warnings.filterwarnings('ignore')
```

In [92]:

```
%matplotlib inline
```

In [97]:

```
plt.rcParams['figure.figsize'] = 10,5
```

In [98]:

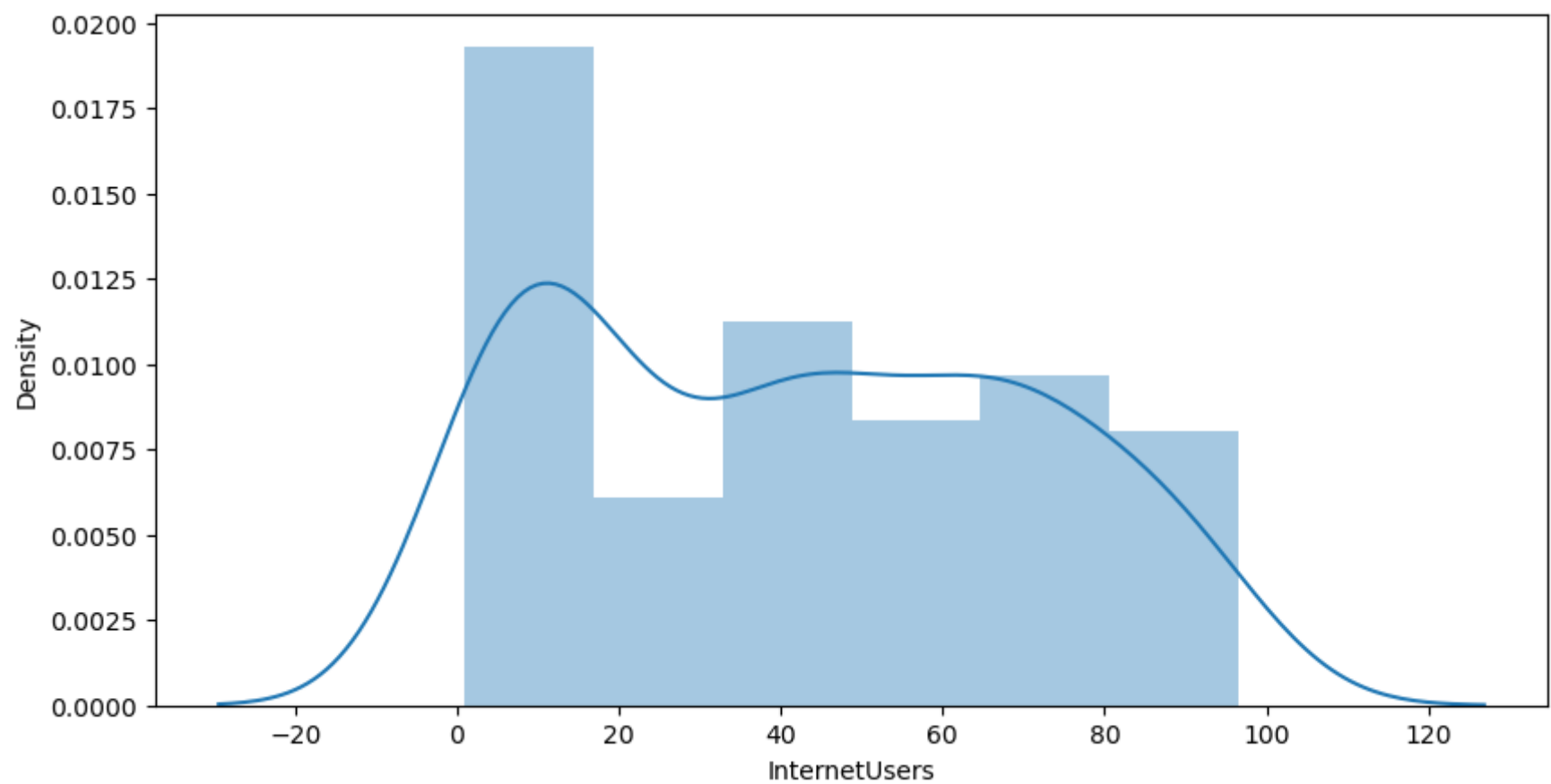
```
stats.head()
```

Out[98]:

	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

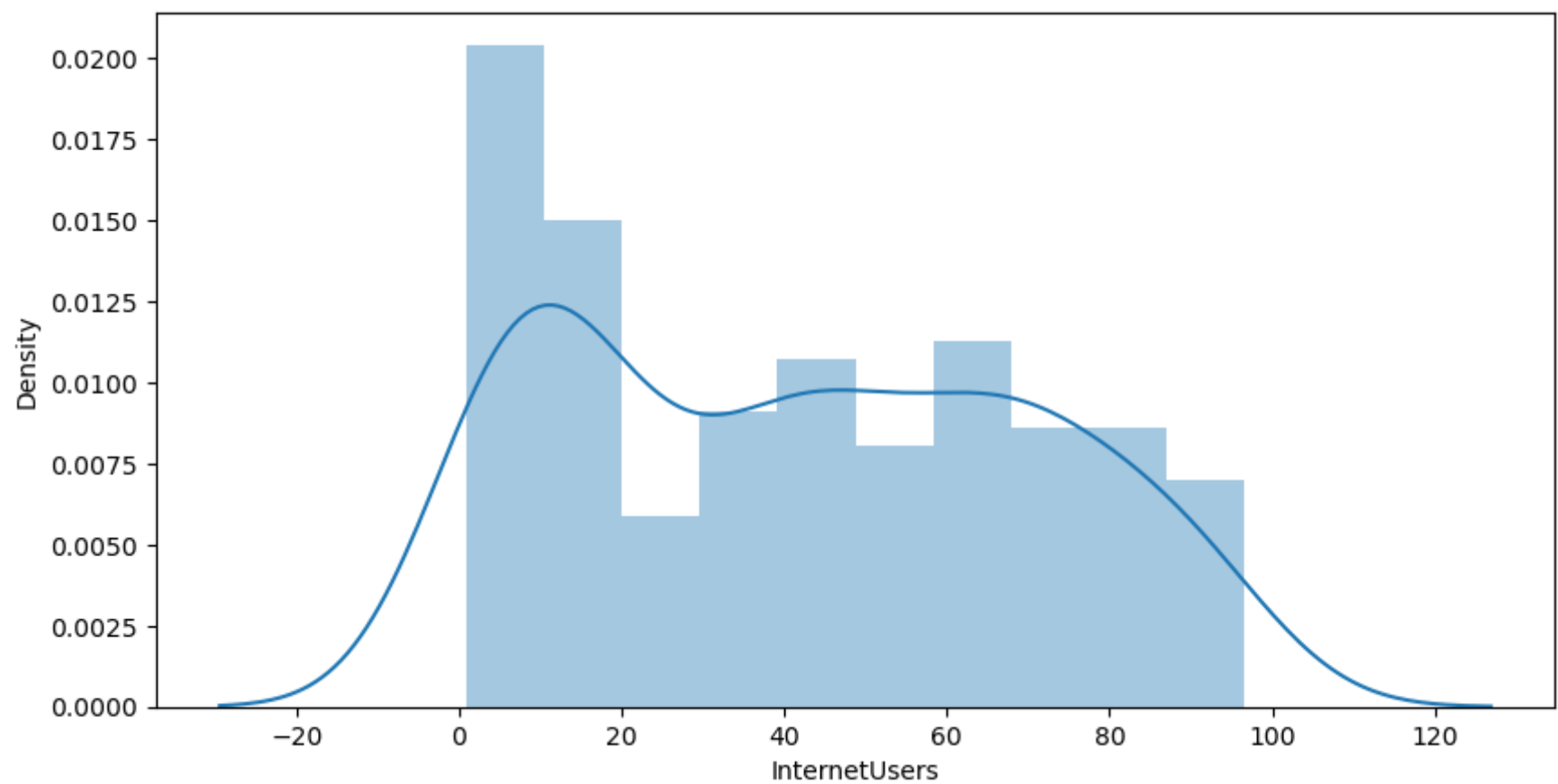
In [99]:

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



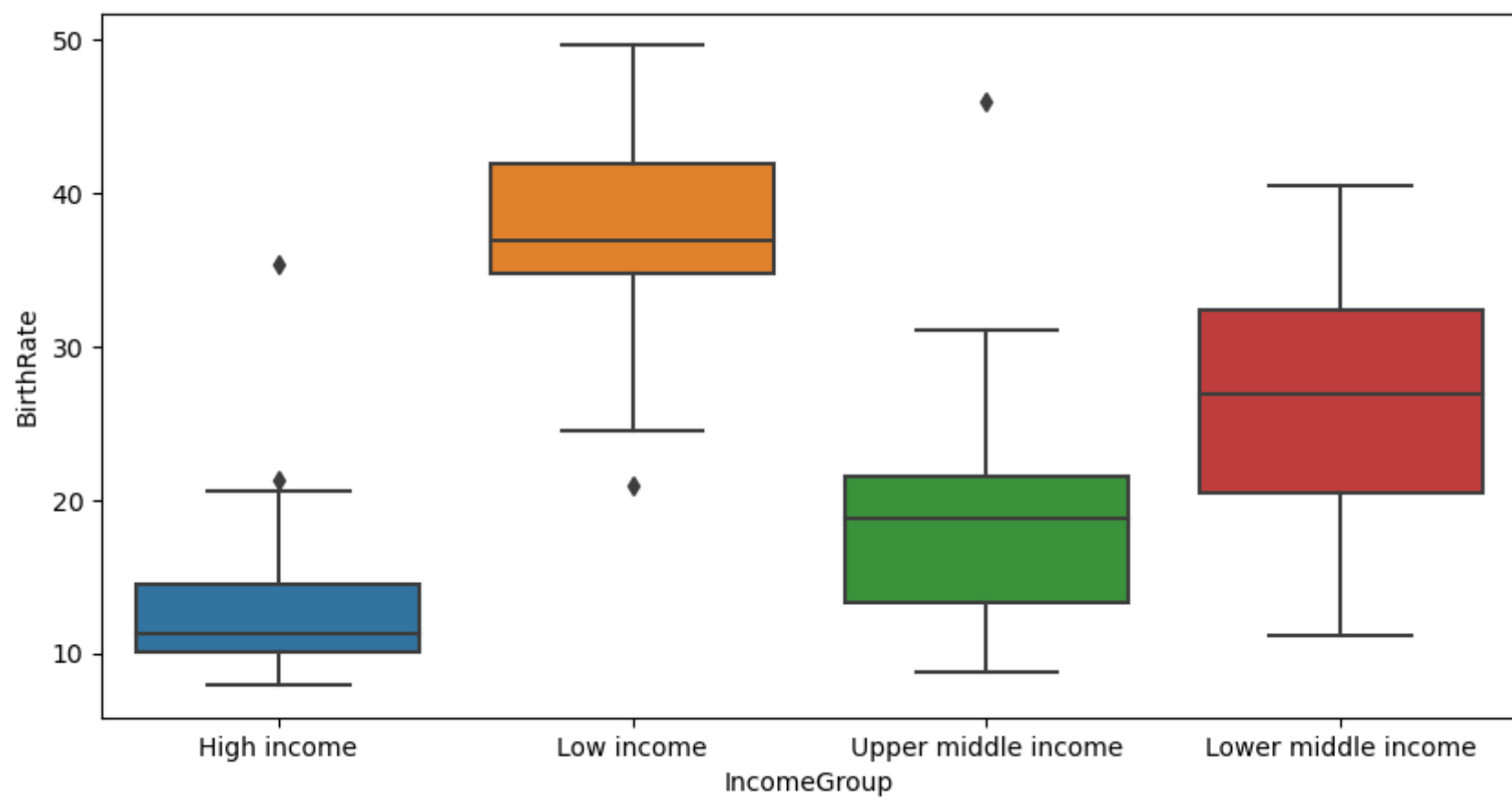
In [100...]

```
visual = sns.distplot(stats["InternetUsers"], bins = 10)
```

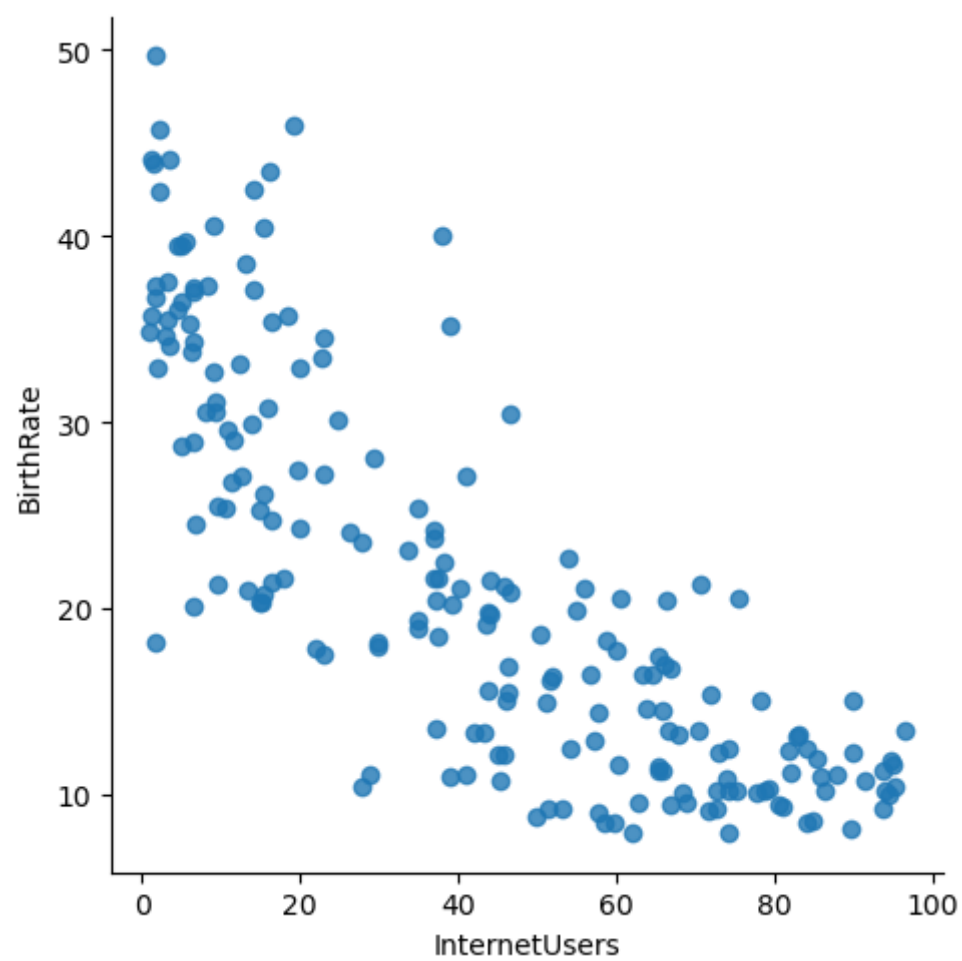


In [101...]

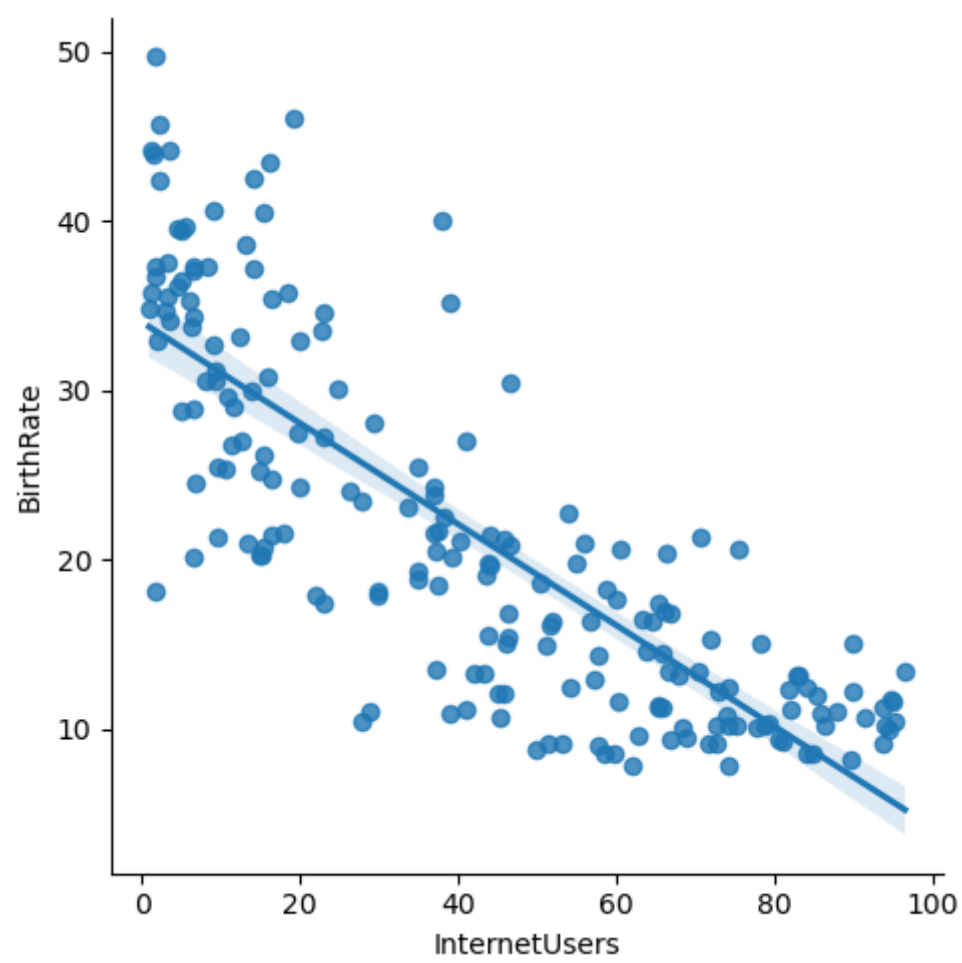
```
visual2 = sns.boxplot(data = stats, x="IncomeGroup", y="BirthRate")
```



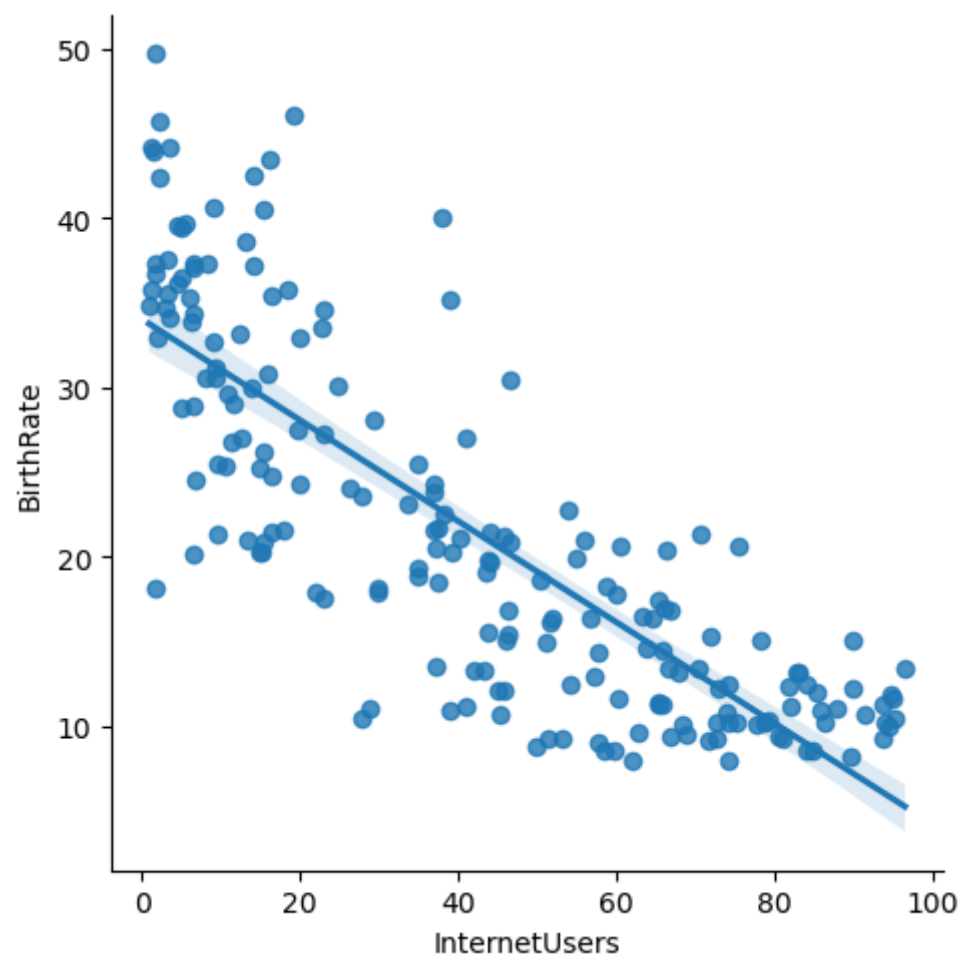
```
In [102... visual3 = sns.lmplot(data = stats, x = 'InternetUsers', y = 'BirthRate', fit_reg = False)
```



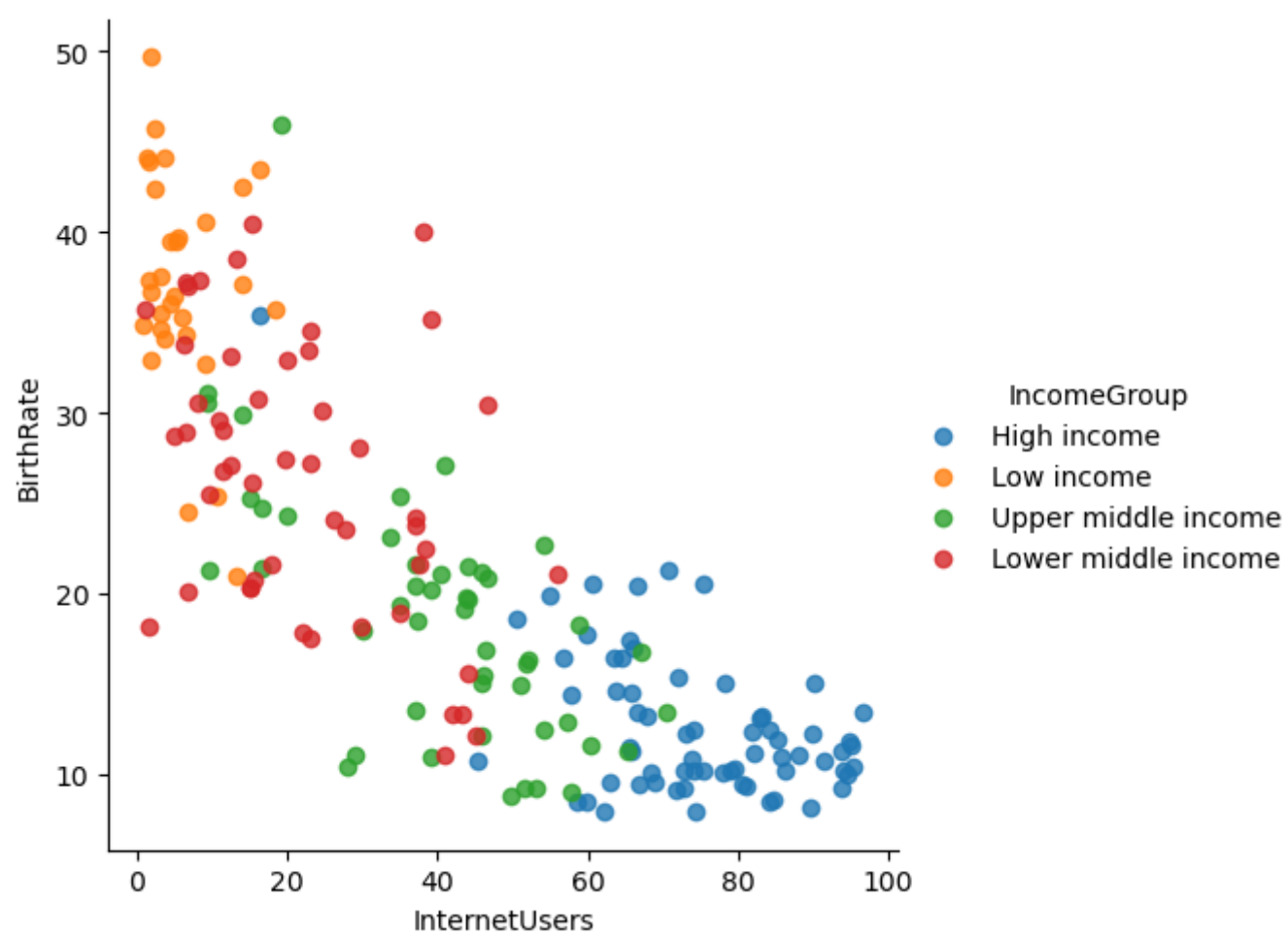
```
In [103... visual3 = sns.lmplot(data = stats, x = 'InternetUsers', y = 'BirthRate', fit_reg = True)
```



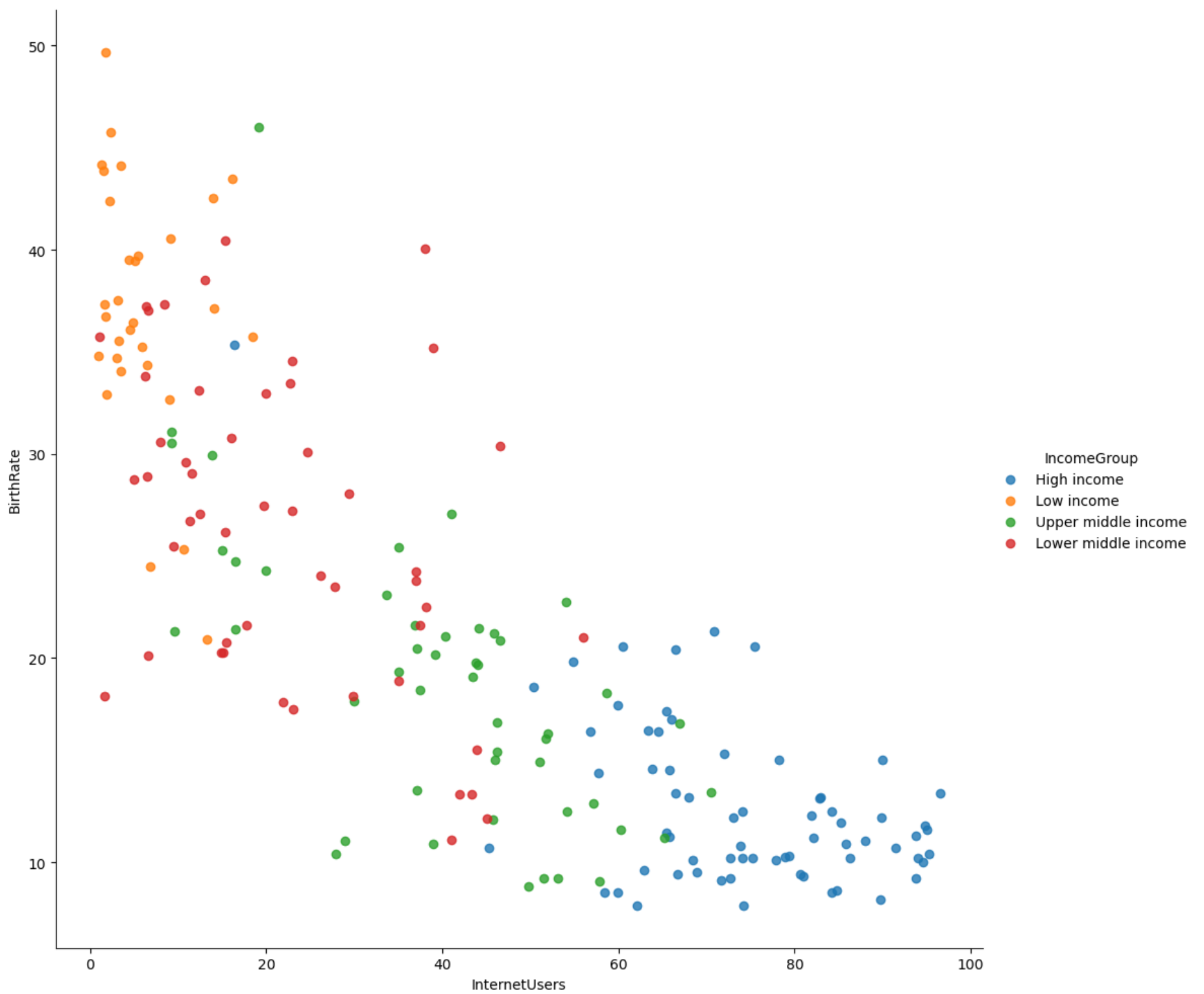
```
In [105... visual4 = sns.lmplot(data = stats, x = 'InternetUsers', y = 'BirthRate')
```



```
In [106... visual5 = sns.lmplot(data = stats, x = 'InternetUsers', y = 'BirthRate', fit_reg = False, hue = 'IncomeGroup')
```



```
In [107]: visual5 = sns.lmplot(data = stats, x = 'InternetUsers', y = 'BirthRate', fit_reg = False, hue = 'IncomeGroup',
size = 10)
```



```
In [ ]:
```