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

In [2]:
```
stats = pd.read_csv(r"C:\Users\Jan Saida\Downloads\data.csv")
```

In [3]:
```
stats
```

Out[3]:

	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 [4]:
```
len(stats)
```

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

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

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

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

Out[6]:
```
5
```

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

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

In [8]:
```
stats.tail()
```

Out[8]:

	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 [9]:
```
stats.head(3)
```

Out[9]:

	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 [10]:
```
stats.tail(6)
```

Out[10]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup
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
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 [11]:
```
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 [12]:
```
stats.describe()
```

Out[12]:

	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 [13]:
```
stats.describe().transpose()
```

Out[13]:

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

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

In [15]:
```
stats.columns
```

Out[15]:
```
Index(['CountryName', 'CountryCode', 'BirthRate', 'InternetUsers',
       'IncomeGroup'],
      dtype='object')
```

In [16]:
```
stats.columns=['a','b','c','d','e']
stats.head()
```

Out[16]:

	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 [17]:
```
stats[21:27]
```

Out[17]:

	a	b	c	d	e
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
26	Brunei Darussalam	BRN	16.405	64.50	High income

In [18]:
```
stats[:]
```

Out[18]:

	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
...	...	...	...	...	...
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 [19]:
```
stats[:10]
```

Out[19]:

	a	b	c	d	e
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

In [20]:
```
stats[::-5]
```

Out[20]:

	a	b	c	d	e
194	Zimbabwe	ZWE	35.715	18.5000	Low income
189	Samoa	WSM	26.172	15.3000	Lower middle income
184	Venezuela, RB	VEN	19.842	54.9000	High income
179	Ukraine	UKR	11.100	41.0000	Lower middle income
174	Trinidad and Tobago	TTO	14.590	63.8000	High income
169	Thailand	THA	11.041	28.9400	Upper middle income
164	Swaziland	SWZ	30.093	24.7000	Lower middle income
159	Sao Tome and Principe	STP	34.537	23.0000	Lower middle income
154	Sierra Leone	SLE	36.729	1.7000	Low income
149	Saudi Arabia	SAU	20.576	60.5000	High income
144	French Polynesia	PYF	16.393	56.8000	High income
139	Papua New Guinea	PNG	28.899	6.5000	Lower middle income
134	Oman	OMN	20.419	66.4500	High income
129	Nicaragua	NIC	20.788	15.5000	Lower middle income
124	Malaysia	MYS	16.805	66.9700	Upper middle income
119	Mongolia	MNG	24.275	20.0000	Upper middle income
114	Macedonia, FYR	MKD	11.222	65.2400	Upper middle income
109	Morocco	MAR	21.023	56.0000	Lower middle income
104	Lesotho	LSO	28.738	5.0000	Lower middle income
99	Liberia	LBR	35.521	3.2000	Low income
94	Kiribati	KIR	29.044	11.5000	Lower middle income
89	Japan	JPN	8.200	89.7100	High income
84	Iceland	ISL	13.400	96.5468	High income
79	Indonesia	IDN	20.297	14.9400	Lower middle income
74	Hong Kong SAR, China	HKG	7.900	74.2000	High income
69	Grenada	GRD	19.334	35.0000	Upper middle income
64	Guinea	GIN	37.337	1.6000	Low income
59	Micronesia, Fed. Sts.	FSM	23.511	27.8000	Lower middle income
54	Estonia	EST	10.300	79.4000	High income
49	Algeria	DZA	24.738	16.5000	Upper middle income
44	Czech Republic	CZE	10.200	74.1104	High income
39	Cabo Verde	CPV	21.625	37.5000	Lower middle income
34	Cote d'Ivoire	CIV	37.320	8.4000	Lower middle income
29	Central African Republic	CAF	34.076	3.5000	Low income
24	Brazil	BRA	14.931	51.0400	Upper middle income
19	Bosnia and Herzegovina	BIH	9.062	57.7900	Upper middle income
14	Burkina Faso	BFA	40.551	9.1000	Low income
9	Austria	AUT	9.400	80.6188	High income
4	United Arab Emirates	ARE	11.044	88.0000	High income

In [21]:
```
stats[9::]
```

Out[21]:

	a	b	c	d	e
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
...	...	...	...	...	...
190	Yemen, Rep.	YEM	32.947	20.0000	Lower middle income
191	South Africa	ZAF	20.850	46.5000	Upper middle income
192	Congo, Dem. Rep.	COD	42.394	2.2000	Low income
193	Zambia	ZMB	40.471	15.4000	Lower middle income
194	Zimbabwe	ZWE	35.715	18.5000	Low income

186 rows × 5 columns

In [22]:
```
stats
```

Out[22]:

	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
...	...	...	...	...	...
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 [23]:
```
stats.columns
```

Out[23]:
```
Index(['a', 'b', 'c', 'd', 'e'], dtype='object')
```

In [24]:
```
stats = pd.read_csv(r"C:\Users\Jan Saida\Downloads\data.csv")
```

In [25]:
```
stats
```

Out[25]:

	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 [26]:
```
stats.columns
```

Out[26]:
```
Index(['CountryName', 'CountryCode', 'BirthRate', 'InternetUsers',
       'IncomeGroup'],
      dtype='object')
```

In [27]:
```
stats.head()
```

Out[27]:

	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 [28]:
```
stats['CountryName'].head()
```

Out[28]:
```
0                  Aruba
1            Afghanistan
2                 Angola
3                Albania
4    United Arab Emirates
Name: CountryName, dtype: object
```

In [29]:
```
stats[['CountryName','InternetUsers']].head()
```

Out[29]:

	CountryName	InternetUsers
0	Aruba	78.9
1	Afghanistan	5.9
2	Angola	19.1
3	Albania	57.2
4	United Arab Emirates	88.0

In [30]:
```
stats.describe().transpose()
```

Out[30]:

	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 [31]:
```
stats[4:8][['CountryName','InternetUsers']]
```

Out[31]:

	CountryName	InternetUsers
4	United Arab Emirates	88.0
5	Argentina	59.9
6	Armenia	41.9
7	Antigua and Barbuda	63.4

In [32]:
```
stats[['CountryName','InternetUsers']][4:9]
```

Out[32]:

	CountryName	InternetUsers
4	United Arab Emirates	88.0
5	Argentina	59.9
6	Armenia	41.9
7	Antigua and Barbuda	63.4
8	Australia	83.0

In [33]:
```
df1=stats[['CountryName','InternetUsers']]
```

In [34]:
```
df1
```

Out[34]:

	CountryName	InternetUsers
0	Aruba	78.9
1	Afghanistan	5.9
2	Angola	19.1
3	Albania	57.2
4	United Arab Emirates	88.0
...	...	...
190	Yemen, Rep.	20.0
191	South Africa	46.5
192	Congo, Dem. Rep.	2.2
193	Zambia	15.4
194	Zimbabwe	18.5

195 rows × 2 columns

In [35]:
```
df2=stats[1:10]
```

In [36]:
```
df2
```

Out[36]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup
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

In [37]:
```
stats[['CountryName','InternetUsers','IncomeGroup']][2:8]
```

Out[37]:

	CountryName	InternetUsers	IncomeGroup
2	Angola	19.1	Upper middle income
3	Albania	57.2	Upper middle income
4	United Arab Emirates	88.0	High income
5	Argentina	59.9	High income
6	Armenia	41.9	Lower middle income
7	Antigua and Barbuda	63.4	High income

In [38]:
```
stats.BirthRate*stats.InternetUsers
```

Out[38]:
```
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 [39]:
```
stats
```

Out[39]:

	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 [40]:
```
stats['myCalc']=stats.BirthRate*stats.InternetUsers
```

In [41]:
```
stats['myCalc']
```

Out[41]:
```
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
Name: myCalc, Length: 195, dtype: float64
```

In [42]:
```
stats.head()
```

Out[42]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	myCalc
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 [43]:
```
stats.drop('myCalc',axis=1)
```

Out[43]:

	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 [44]:
```
stats=stats.drop('myCalc',axis=1)
```

In [45]:
```
stats.head()
```

Out[45]:

	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 [46]:
```
stats.columns[2]
```

Out[46]:
```
'BirthRate'
```

In [47]:
```
stats.columns[3]
```

Out[47]:
```
'InternetUsers'
```

In [48]:
```
stats.InternetUsers<2
```

Out[48]:
```
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 [49]:
```
Filter=stats.InternetUsers<2
```

In [50]:
```
Filter
```

Out[50]:
```
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 [51]:
```
stats[3:8]
```

Out[51]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup
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
6	Armenia	ARM	13.308	41.9	Lower middle income
7	Antigua and Barbuda	ATG	16.447	63.4	High income

In [52]:
```
stats[120:185]
```

Out[52]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup
120	Mozambique	MOZ	39.705	5.40	Low income
121	Mauritania	MRT	33.801	6.20	Lower middle income
122	Mauritius	MUS	10.900	39.00	Upper middle income
123	Malawi	MWI	39.459	5.05	Low income
124	Malaysia	MYS	16.805	66.97	Upper middle income
...	...	...	...	...	...
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

65 rows × 5 columns

In [53]:
```
stats[Filter]
```

Out[53]:

	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

In [54]:
```
stats.BirthRate>60
```

Out[54]:
```
0      False
1      False
2      False
3      False
4      False
       ...
190    False
191    False
192    False
193    False
194    False
Name: BirthRate, Length: 195, dtype: bool
```

In [55]:
```
Filter2=stats.BirthRate>40
```

In [56]:
```
Filter2
```

Out[56]:
```
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 [57]:
```
stats[Filter2]
```

Out[57]:

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

In [58]:
```
Filter&Filter2
```

Out[58]:
```
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 [59]:
```
stats[Filter&Filter2]
```

Out[59]:

	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

In [60]:
```
stats[(stats.BirthRate>40)&(stats.InternetUsers<2)]
```

Out[60]:

	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

In [61]:
```
stats.head()
```

Out[61]:

	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 [62]:
```
stats[stats.IncomeGroup=='Low income']
```

Out[62]:

	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 [63]:
```
stats[stats.IncomeGroup=='High income']
```

Out[63]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup
0	Aruba	ABW	10.244	78.90	High income
4	United Arab Emirates	ARE	11.044	88.00	High income
5	Argentina	ARG	17.716	59.90	High income
7	Antigua and Barbuda	ATG	16.447	63.40	High income
8	Australia	AUS	13.200	83.00	High income
...	...	...	...	...	...
174	Trinidad and Tobago	TTO	14.590	63.80	High income
180	Uruguay	URY	14.374	57.69	High income
181	United States	USA	12.500	84.20	High income
184	Venezuela, RB	VEN	19.842	54.90	High income
185	Virgin Islands (U.S.)	VIR	10.700	45.30	High income

67 rows × 5 columns

In [64]:
```
stats[stats.IncomeGroup=='Upper middle income']
```

Out[64]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup
2	Angola	AGO	45.985	19.100000	Upper middle income
3	Albania	ALB	12.877	57.200000	Upper middle income
10	Azerbaijan	AZE	18.300	58.700000	Upper middle income
16	Bulgaria	BGR	9.200	53.061500	Upper middle income
19	Bosnia and Herzegovina	BIH	9.062	57.790000	Upper middle income
20	Belarus	BLR	12.500	54.170000	Upper middle income
21	Belize	BLZ	23.092	33.600000	Upper middle income
24	Brazil	BRA	14.931	51.040000	Upper middle income
28	Botswana	BWA	25.267	15.000000	Upper middle income
33	China	CHN	12.100	45.800000	Upper middle income
37	Colombia	COL	16.076	51.700000	Upper middle income
40	Costa Rica	CRI	15.022	45.960000	Upper middle income
41	Cuba	CUB	10.400	27.930000	Upper middle income
48	Dominican Republic	DOM	21.198	45.900000	Upper middle income
49	Algeria	DZA	24.738	16.500000	Upper middle income
50	Ecuador	ECU	21.070	40.353684	Upper middle income
57	Fiji	FJI	20.463	37.100000	Upper middle income
60	Gabon	GAB	30.555	9.200000	Upper middle income
69	Grenada	GRD	19.334	35.000000	Upper middle income
82	Iran, Islamic Rep.	IRN	17.900	29.950000	Upper middle income
83	Iraq	IRQ	31.093	9.200000	Upper middle income
87	Jamaica	JAM	13.540	37.100000	Upper middle income
88	Jordan	JOR	27.046	41.000000	Upper middle income
90	Kazakhstan	KAZ	22.730	54.000000	Upper middle income
98	Lebanon	LBN	13.426	70.500000	Upper middle income
100	Libya	LBY	21.425	16.500000	Upper middle income
101	St. Lucia	LCA	15.430	46.200000	Upper middle income
112	Maldives	MDV	21.447	44.100000	Upper middle income
113	Mexico	MEX	19.104	43.460000	Upper middle income
114	Macedonia, FYR	MKD	11.222	65.240000	Upper middle income
118	Montenegro	MNE	11.616	60.310000	Upper middle income
119	Mongolia	MNG	24.275	20.000000	Upper middle income
122	Mauritius	MUS	10.900	39.000000	Upper middle income
124	Malaysia	MYS	16.805	66.970000	Upper middle income
125	Namibia	NAM	29.937	13.900000	Upper middle income
136	Panama	PAN	19.680	44.030000	Upper middle income
137	Peru	PER	20.198	39.200000	Upper middle income
143	Paraguay	PRY	21.588	36.900000	Upper middle income
146	Romania	ROU	8.800	49.764500	Upper middle income
157	Serbia	SRB	9.200	51.500000	Upper middle income
160	Suriname	SUR	18.455	37.400000	Upper middle income
169	Thailand	THA	11.041	28.940000	Upper middle income
171	Turkmenistan	TKM	21.322	9.600000	Upper middle income
173	Tonga	TON	25.409	35.000000	Upper middle income
175	Tunisia	TUN	19.800	43.800000	Upper middle income
176	Turkey	TUR	16.836	46.250000	Upper middle income
183	St. Vincent and the Grenadines	VCT	16.306	52.000000	Upper middle income
191	South Africa	ZAF	20.850	46.500000	Upper middle income

In [65]:
```
stats.IncomeGroup.unique()
```

Out[65]:
```
array(['High income', 'Low income', 'Upper middle income',
       'Lower middle income'], dtype=object)
```

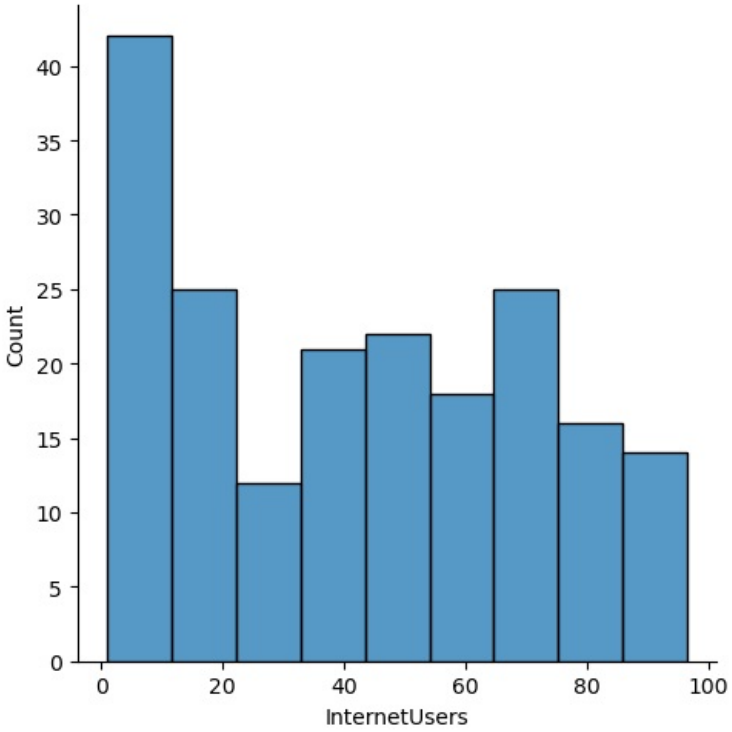
In [66]:
```
import matplotlib.pyplot as plt # visulaiztion
import seaborn as sns # distribution visualtion

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

In [67]:
```
stats.head()
```

Out[67]:

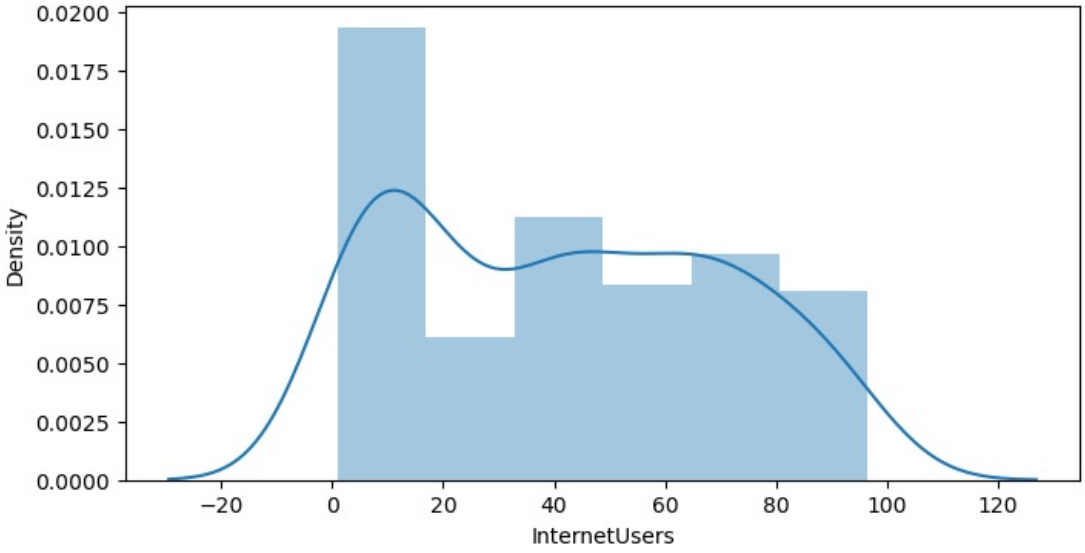
	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup
0	Aruba	ABW	10.244	78.9	High income
1	Afghanistan	AFG	35.253	5.9	Low income
2	Angola	AGO	45.985	19.1	Upper middle income
3	Albania	ALB	12.877	57.2	Upper middle income
4	United Arab Emirates	ARE	11.044	88.0	High income

In [68]:
```
vis1=sns.displot(stats["InternetUsers"])
```

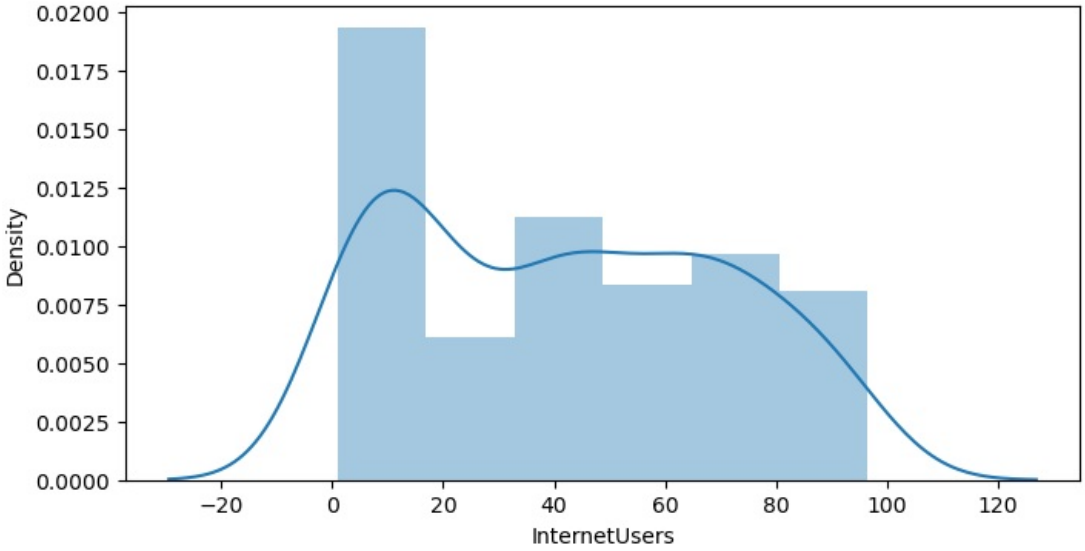


In [69]:
```
vis1=sns.distplot(stats["InternetUsers"])
```

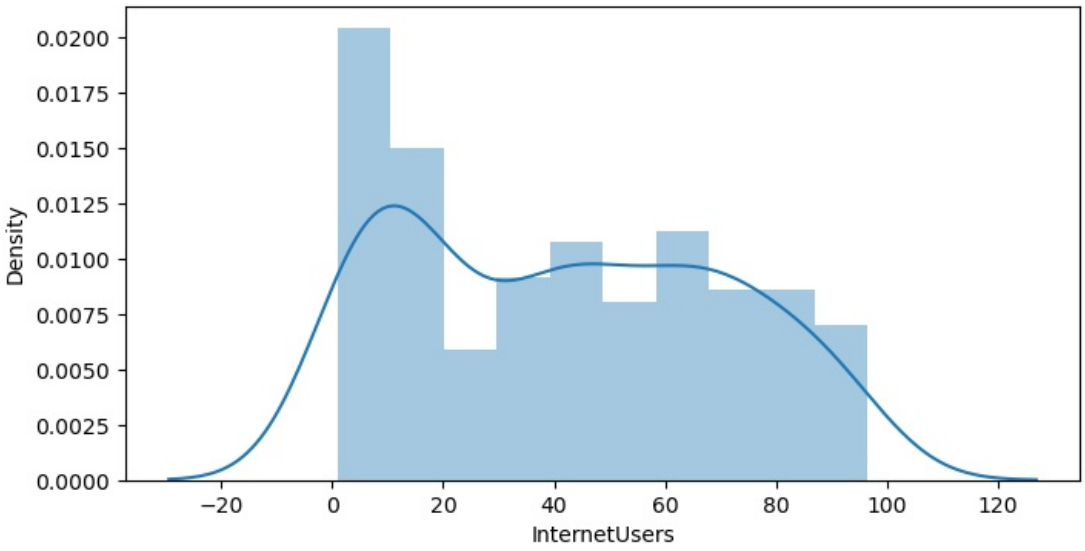
```
C:\Users\Jan Saida\AppData\Local\Temp\ipykernel_19044\196810233.py:1: UserWarning:

`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"])
```



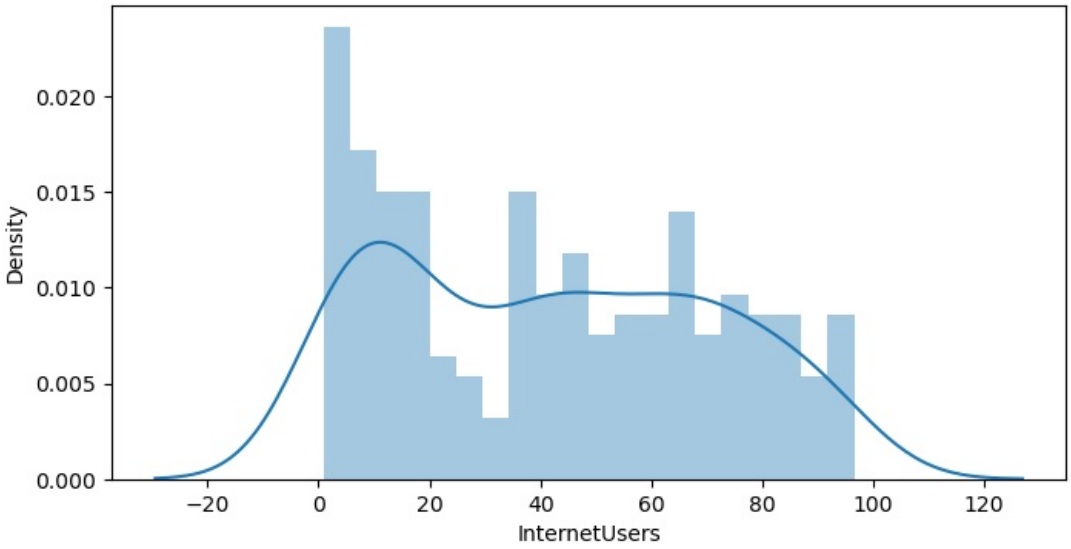
In [70]:
```
import warnings
warnings.filterwarnings('ignore')
vis1=sns.distplot(stats["InternetUsers"])
```



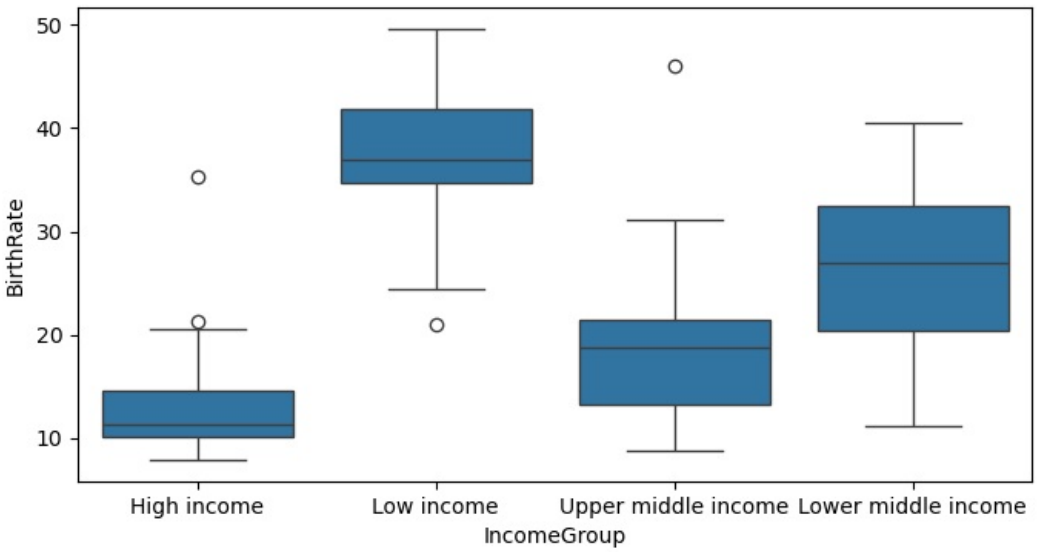
In [71]:
```
vis1=sns.distplot(stats["InternetUsers"],bins=10)
```



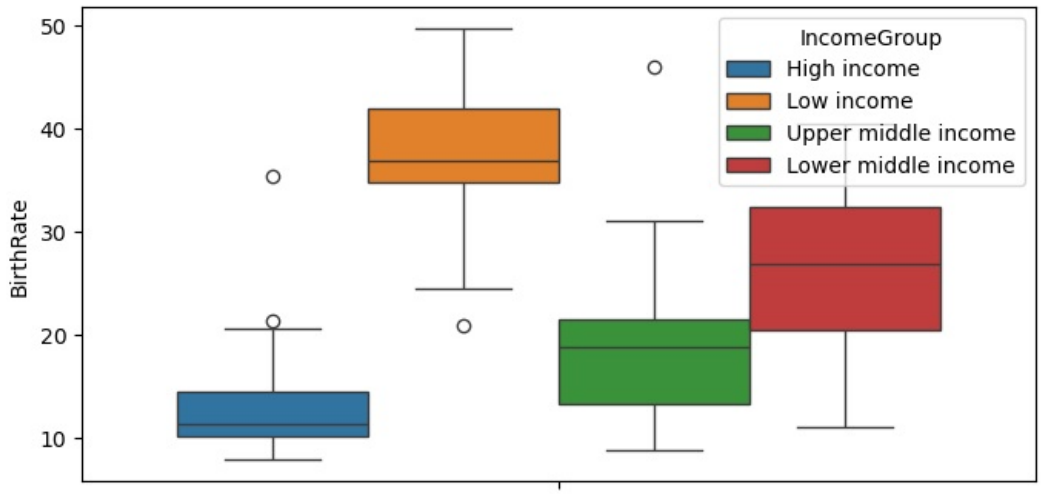
In [72]:
```
vis1=sns.distplot(stats["InternetUsers"],bins=20)
```



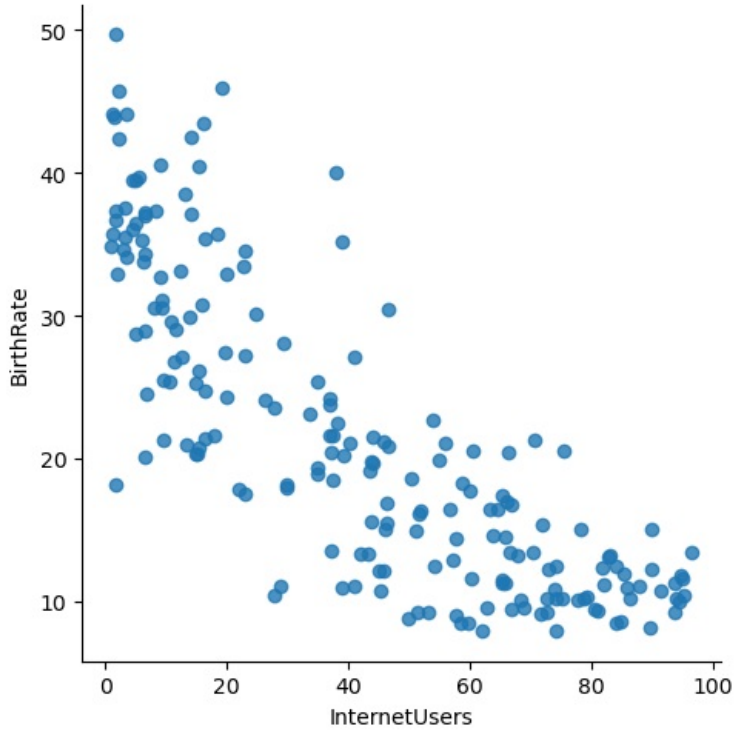
In [73]:
```
vis2=sns.boxplot(data=stats,x="IncomeGroup",y="BirthRate")
```



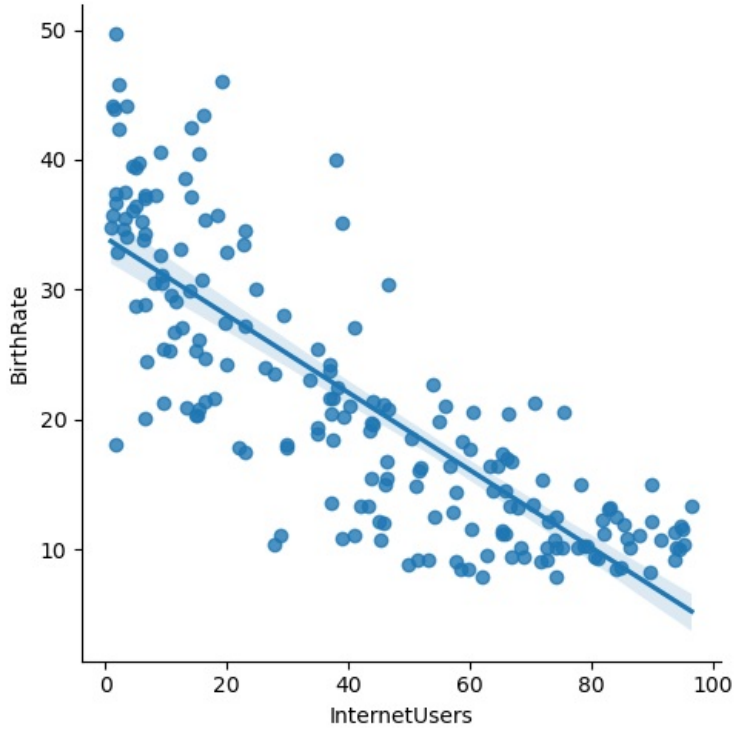
In [74]:
```
vis2=sns.boxplot(data=stats,hue="IncomeGroup",y="BirthRate")
```



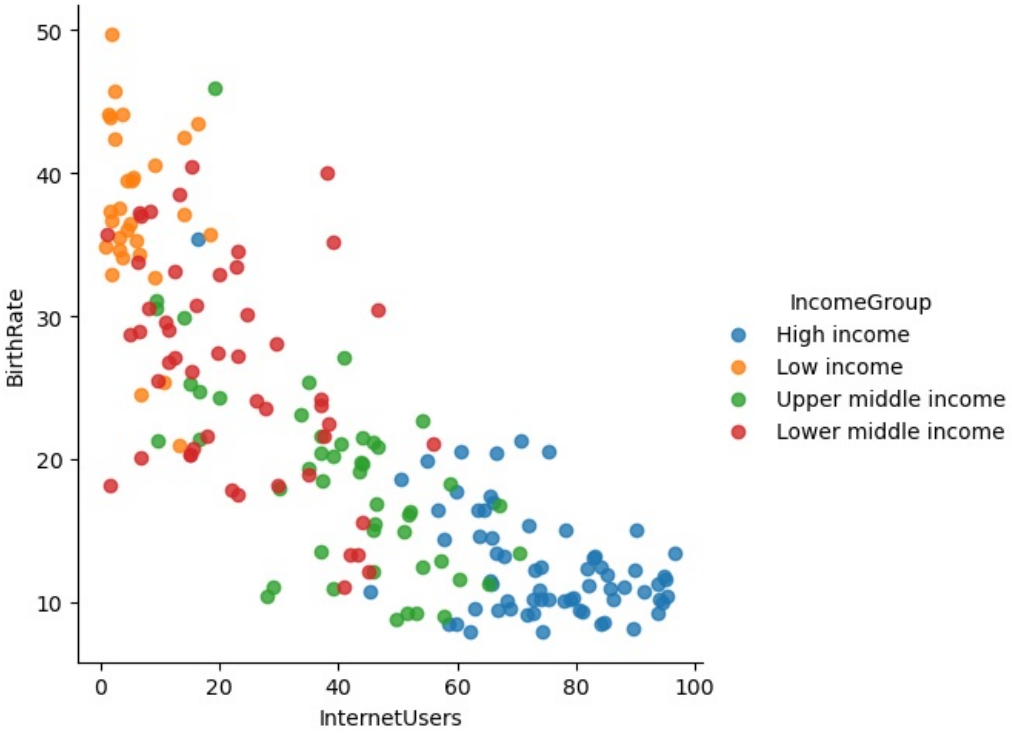
In [75]:
```
vis3=sns.lmplot(data=stats,x='InternetUsers',y='BirthRate',fit_reg=False)
```



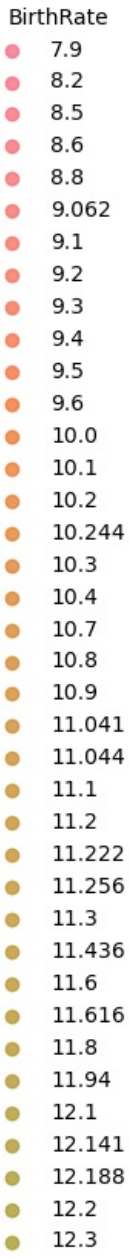
In [76]:
```
vis4=sns.lmplot(data=stats,x='InternetUsers',y='BirthRate',fit_reg=True)
```

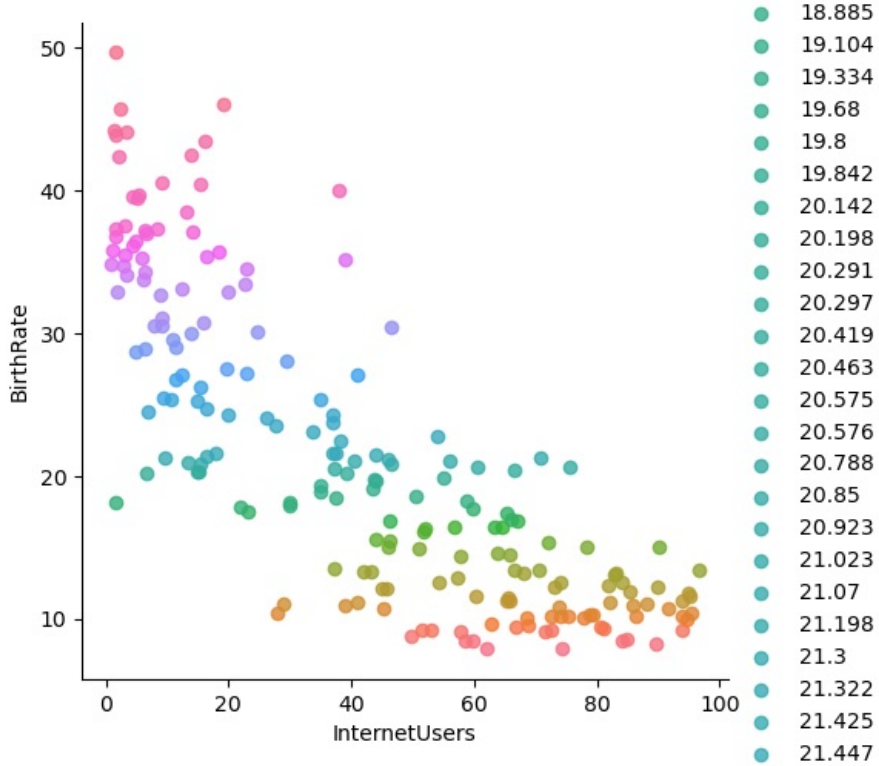


In [77]:
```
vis5 = sns.lmplot(data = stats,x = 'InternetUsers', y = 'BirthRate',
                  fit_reg = False,hue = 'IncomeGroup')
```

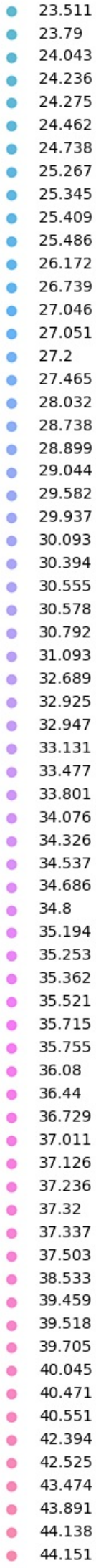


In [78]:
```
vis5 = sns.lmplot(data = stats,x = 'InternetUsers', y = 'BirthRate',
                  fit_reg = False,hue = 'BirthRate')
```



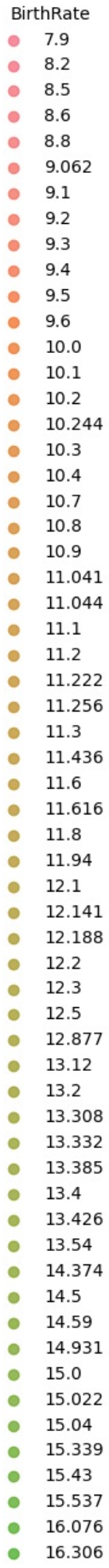


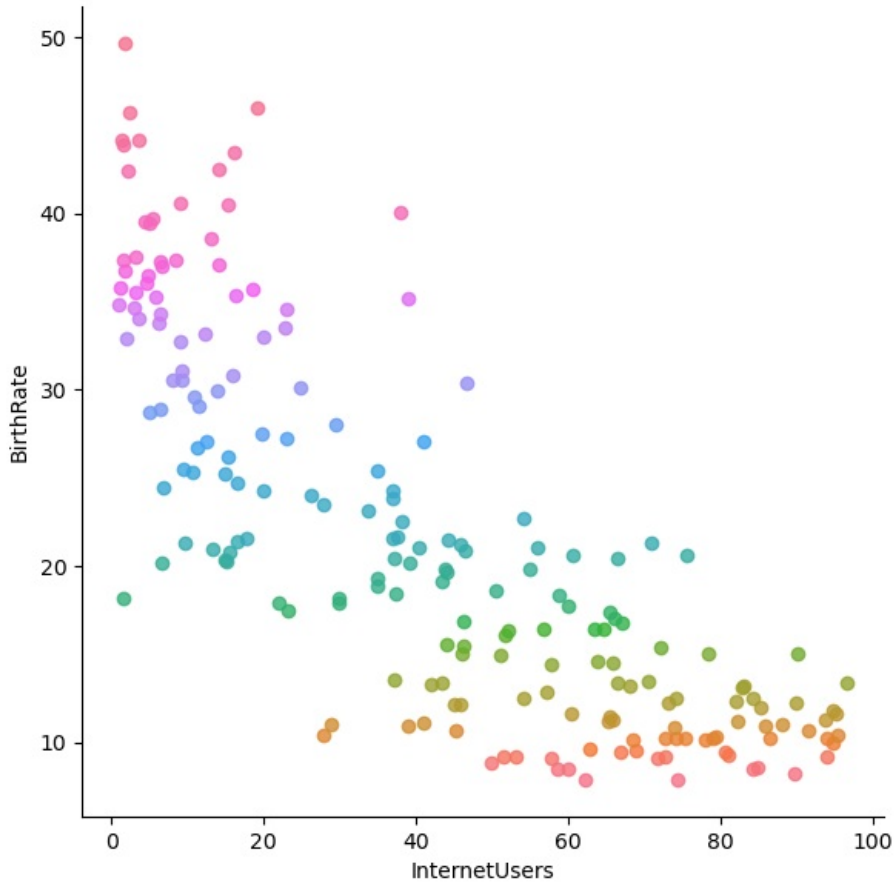
12.5
12.877
13.12
13.2
13.308
13.332
13.385
13.4
13.426
13.54
14.374
14.5
14.59
14.931
15.0
15.022
15.04
15.339
15.43
15.537
16.076
16.306
16.393
16.405
16.447
16.805
16.836
17.0
17.389
17.476
17.716
17.863
17.9
18.119
18.134
18.3
18.455
18.6
18.885
19.104
19.334
19.68
19.8
19.842
20.142
20.198
20.291
20.297
20.419
20.463
20.575
20.576
20.788
20.85
20.923
21.023
21.07
21.198
21.3
21.322
21.425
21.447
21.588
21.593
21.625
22.5
22.73
23.092


23.511
23.79
24.043
24.236
24.275
24.462
24.738
25.267
25.345
25.409
25.486
26.172
26.739
27.046
27.051
27.2
27.465
28.032
28.738
28.899
29.044
29.582
29.937
30.093
30.394
30.555
30.578
30.792
31.093
32.689
32.925
32.947
33.131
33.477
33.801
34.076
34.326
34.537
34.686
34.8
35.194
35.253
35.362
35.521
35.715
35.755
36.08
36.44
36.729
37.011
37.126
37.236
37.32
37.337
37.503
38.533
39.459
39.518
39.705
40.045
40.471
40.551
42.394
42.525
43.474
43.891
44.138
44.151

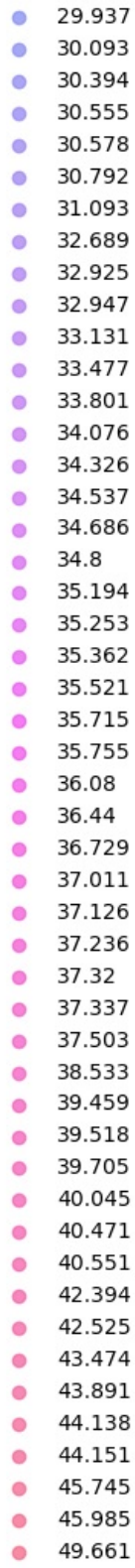
45.745
45.985
49.661

In [79]:
```
vis5 = sns.lmplot(data = stats,x = 'InternetUsers', y = 'BirthRate',
                  fit_reg = False,hue = 'BirthRate',height=6)
```

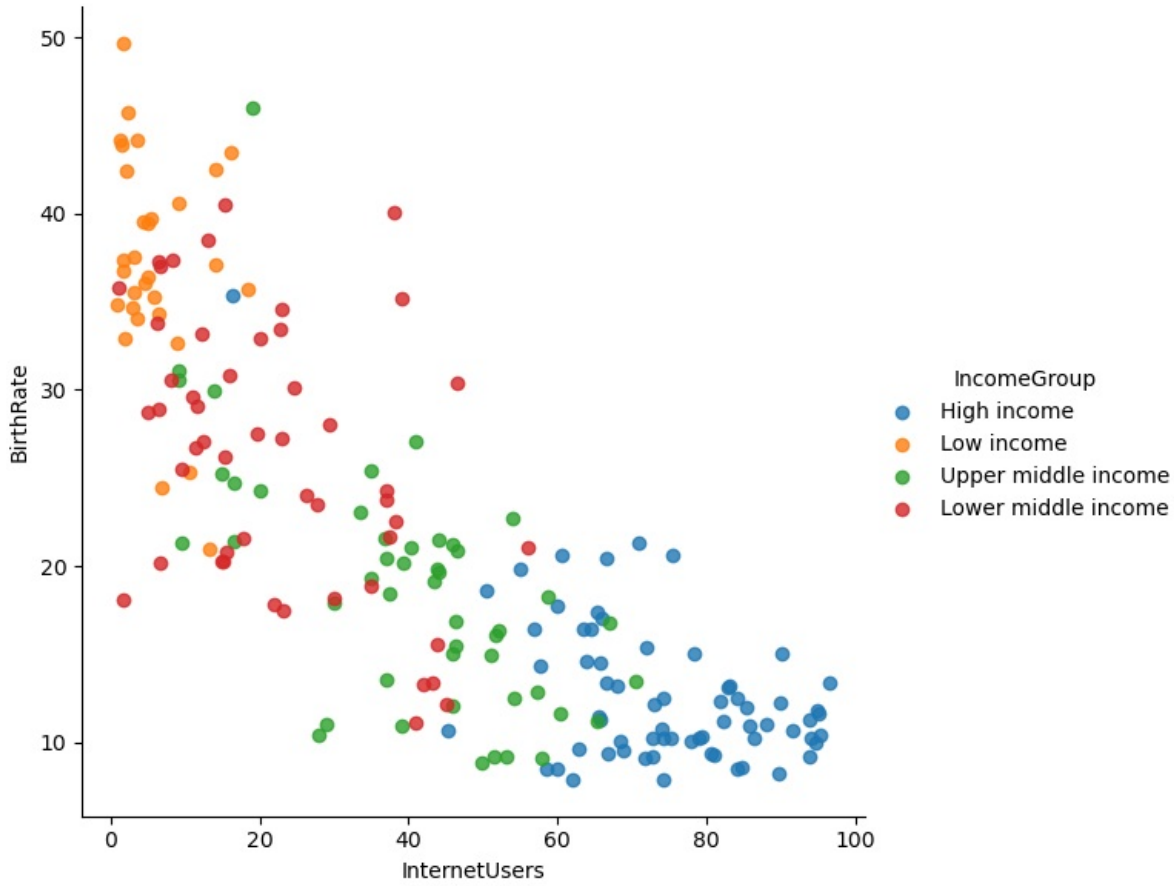




16.393
16.405
16.447
16.805
16.836
17.0
17.389
17.476
17.716
17.863
17.9
18.119
18.134
18.3
18.455
18.6
18.885
19.104
19.334
19.68
19.8
19.842
20.142
20.198
20.291
20.297
20.419
20.463
20.575
20.576
20.788
20.85
20.923
21.023
21.07
21.198
21.3
21.322
21.425
21.447
21.588
21.593
21.625
22.5
22.73
23.092
23.511
23.79
24.043
24.236
24.275
24.462
24.738
25.267
25.345
25.409
25.486
26.172
26.739
27.046
27.051
27.2
27.465
28.032
28.738
28.899
29.044
29.582



In [80]:
```
vis5 = sns.lmplot(data = stats,x = 'InternetUsers', y = 'BirthRate',
                  fit_reg = False,hue = 'IncomeGroup',height=6)
```



In [ ]: