

## in this section we learn about:

- importing data into python
- Data fram via panda
- exploring dataset: head(), tail(), info(), describe()
- Renaming columns
- Subsetting dataframes
- Basic operations with dataframe
- filtering data frame
- seaborn intoduction

```
In [136... import numpy as np
import pandas as pd
pd.__version__
```

```
Out[136... '2.2.2'
```

```
In [138... stats = pd.read_csv(r"C:\Users\swati\Downloads\data.csv")
stats
```

```
Out[138...
```

	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 [140... len(stats)
```

Out[140...] 195

In [142...] `stats.columns`Out[142...] `Index(['CountryName', 'CountryCode', 'BirthRate', 'InternetUsers',  
'IncomeGroup'],  
 dtype='object')`In [144...] `len(stats.columns)`

Out[144...] 5

In [146...] `stats.head()`

Out[146...] 

	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 [148...] `stats.head(2)`

Out[148...] 

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup
0	Aruba	ABW	10.244	78.9	High income
1	Afghanistan	AFG	35.253	5.9	Low income

In [150...] `stats.tail()`

Out[150...] 

	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 [152...] `stats.tail(3)`

Out[152...] 

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup
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 [154...

`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 [156...

`stats.describe()`

Out[156...

	BirthRate	InternetUsers
<b>count</b>	195.000000	195.000000
<b>mean</b>	21.469928	42.076471
<b>std</b>	10.605467	29.030788
<b>min</b>	7.900000	0.900000
<b>25%</b>	12.120500	14.520000
<b>50%</b>	19.680000	41.000000
<b>75%</b>	29.759500	66.225000
<b>max</b>	49.661000	96.546800

In [158...

`stats.describe().transpose()`

Out[158...

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

In [160...

`stats.head()`

Out[160...

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

In [162...

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

Out[162...

	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 [164...

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

Out[164...

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

In [166...

```
stats.head()
```

Out[166...

	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 [168...

```
stats[:]
```

Out[168...

	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 [170...

```
stats[21:26]
```

Out[170...

	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

In [172...

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

Out[172...

	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

In [174...

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

Out[174...

	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 [176...

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

Out[176...

	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

In [178...

stats['CountryName'].head()

Out[178...

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

In [180...

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

Out[180...

	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 [182...

stats['BirthRate']

Out[182...

```
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 [184...

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

Out[184...

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

In [186...

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

Out[186...

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

In [188...

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

Out[188...

	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 [190...

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



Out[190...

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup
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 [192...

df2

Out[192...

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup
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 [194...

stats[['CountryCode', 'BirthRate', 'InternetUsers']][4:8]

Out[194...

	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

In [196...

stats.BirthRate \* stats.InternetUsers

Out[196...

```

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 [198...

```

stats['myCalc'] = stats.BirthRate * stats.InternetUsers
stats['myCalc']

```

```
Out[198...] 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 [200...] stats.drop('myCalc',axis = 1)
```

```
Out[200...]
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 [202...] stats.head()
```

Out[202...

	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 [204...

stats.columns[2]

Out[204... 'BirthRate'

In [206...

stats.InternetUsers<2

Out[206... 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 [208...

Filter = stats.InternetUsers<2  
Filter

Out[208... 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 [210...

stats[3:7]

Out[210...

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	myCalc
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 [212...

```
stats.BirthRate>40
```

Out[212...

```
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 [214...

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

Out[214...

```
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 [216...

```
stats[Filter2]
```

Out[216...

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

In [218...

Filter &amp; Filter2

Out[218...

```

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 [220...

stats[Filter &amp; Filter2]

Out[220...

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	myCalc
<b>11</b>	Burundi	BDI	44.151	1.3	Low income	57.3963
<b>127</b>	Niger	NER	49.661	1.7	Low income	84.4237
<b>156</b>	Somalia	SOM	43.891	1.5	Low income	65.8365

In [222...

stats[(stats.BirthRate &gt; 40) &amp; ( stats.InternetUsers &lt; 2)]

Out [222...

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	myCalc
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 [224...

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

Out[224...

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

In [226...

stats.IncomeGroup.unique()

```
Out[226...] array(['High income', 'Low income', 'Upper middle income',
      'Lower middle income'], dtype=object)
```

```
In [228...] stats.head()
```

```
Out[228...]
   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  878.3135
   income
3        Albania         ALB    12.877          57.2  Upper middle  736.5644
   income
4  United Arab        ARE    11.044          88.0    High income  971.8720
   Emirates
```

```
In [233...] # Introduction to seaborn # seaborn is very powerfull visualizatio(STATISTIC VIS

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

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

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

```
In [235...] # Distributions:
vis1 = sns.distplot(stats["InternetUsers"])
```

C:\Users\swati\AppData\Local\Temp\ipykernel\_8900\2094964690.py:2: UserWarning:

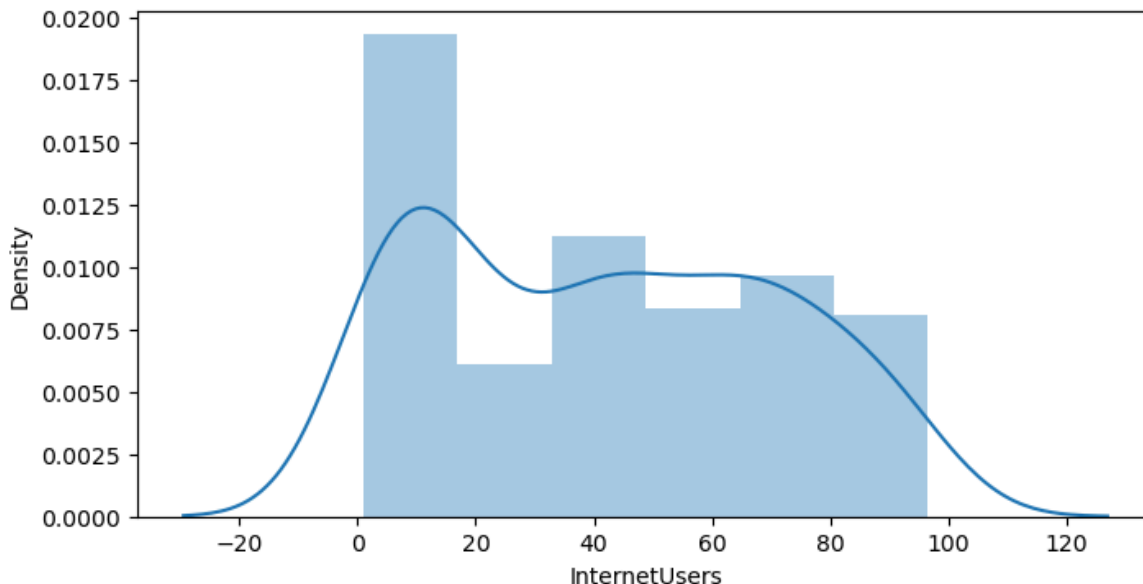
`distplot` is a deprecated function and will be removed in seaborn v0.14.0.

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

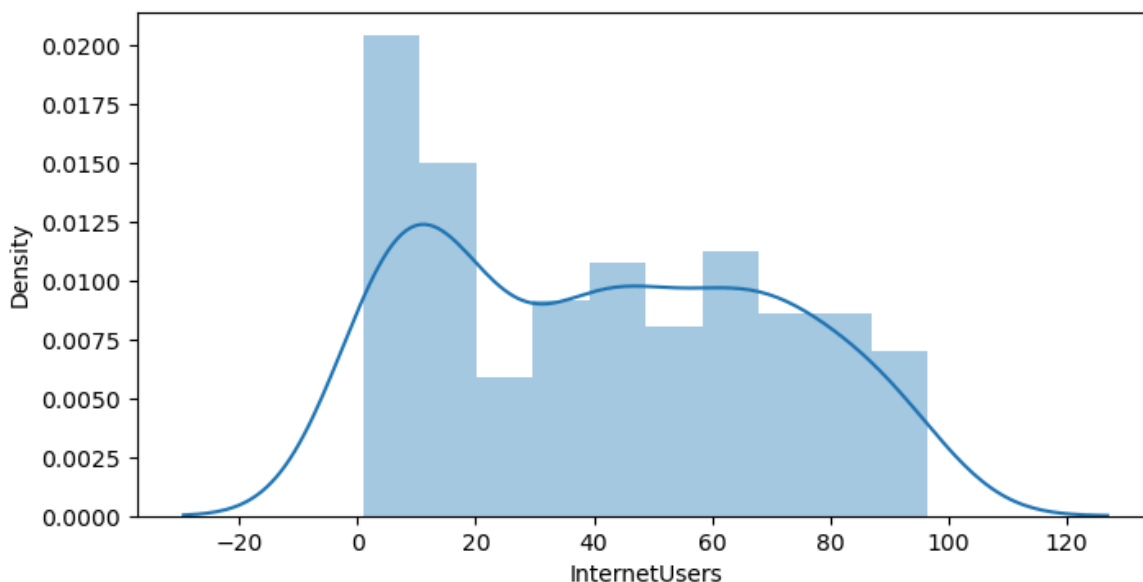
C:\Users\swati\AppData\Local\Temp\ipykernel\_8900\2509260793.py:1: UserWarning:

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

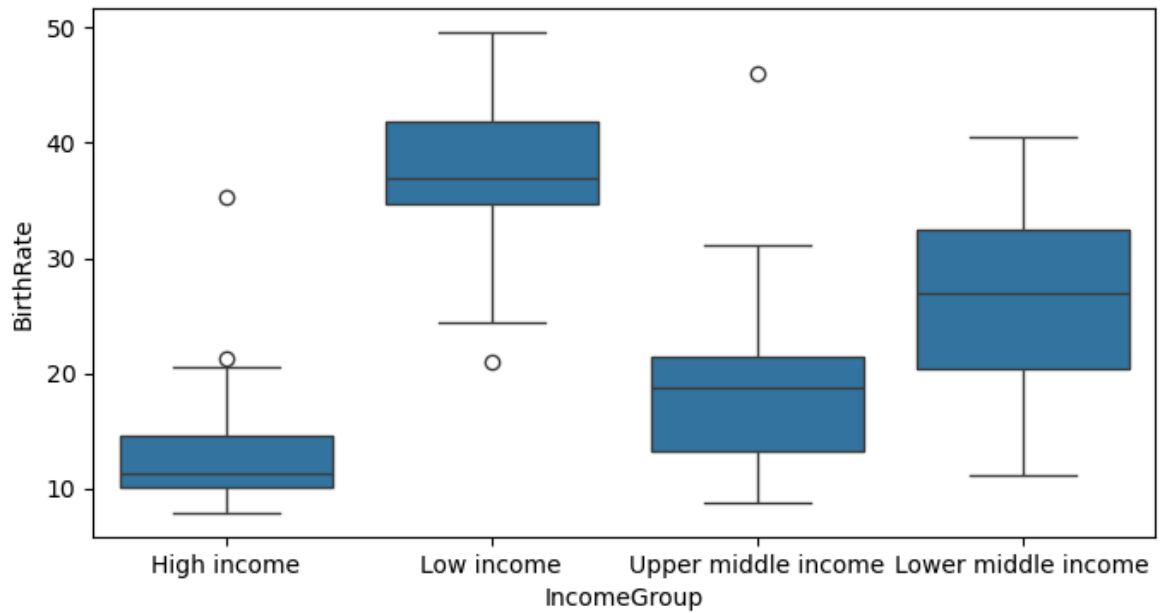
Please adapt your code to use either ``displot`` (a figure-level function with similar flexibility) or ``histplot`` (an axes-level function for histograms).

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

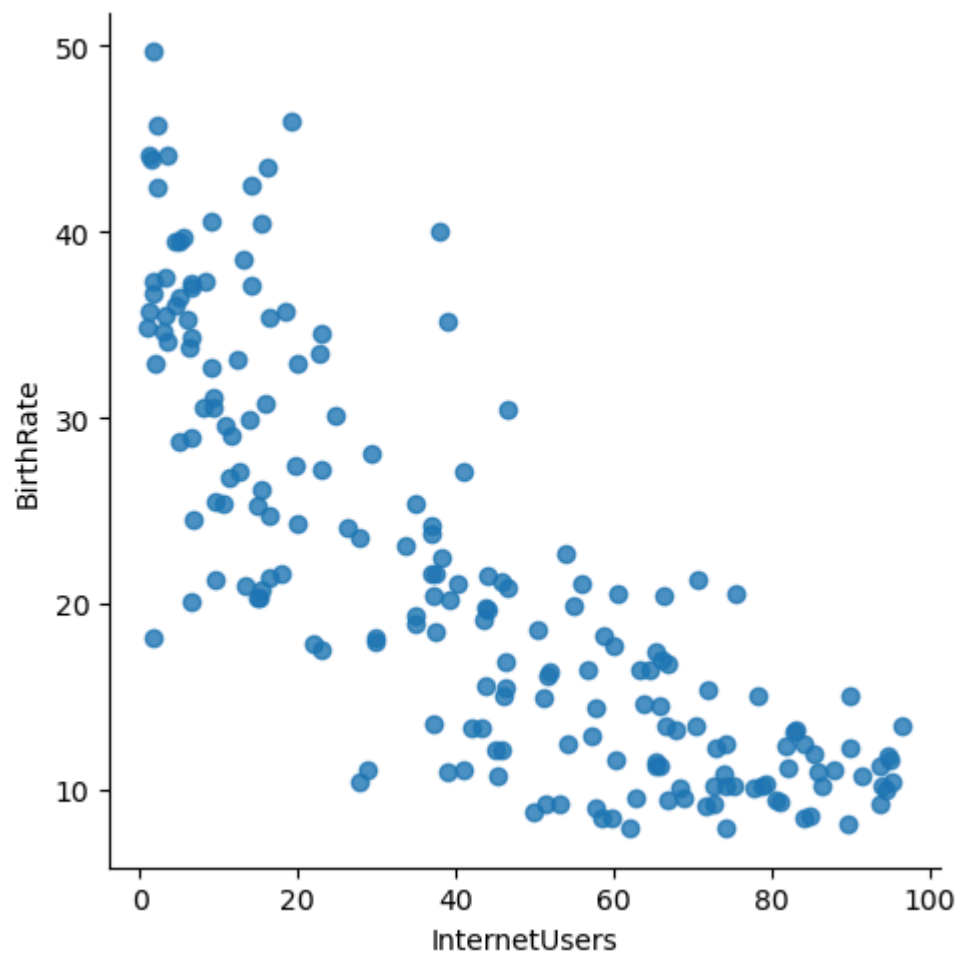
`vis1 = sns.distplot(stats["InternetUsers"], bins=10)`



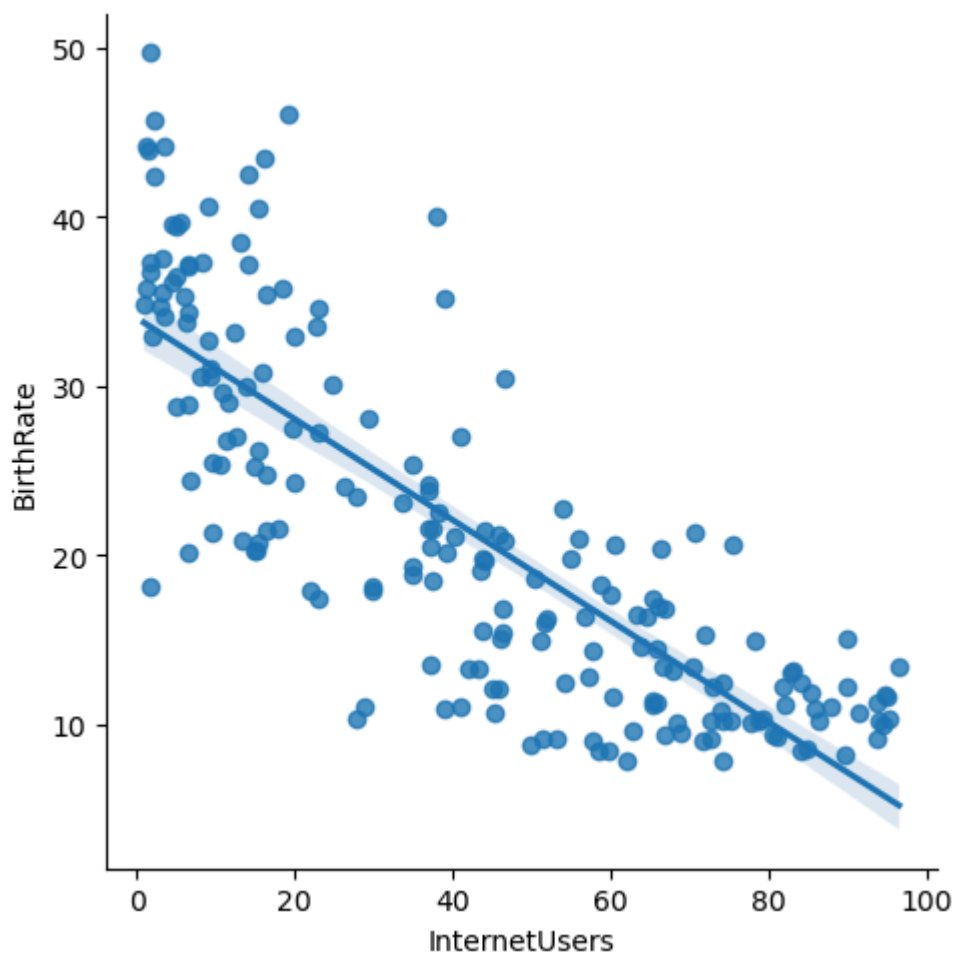
In [237... `vis2 = sns.boxplot(data = stats, x = "IncomeGroup", y = 'BirthRate')`



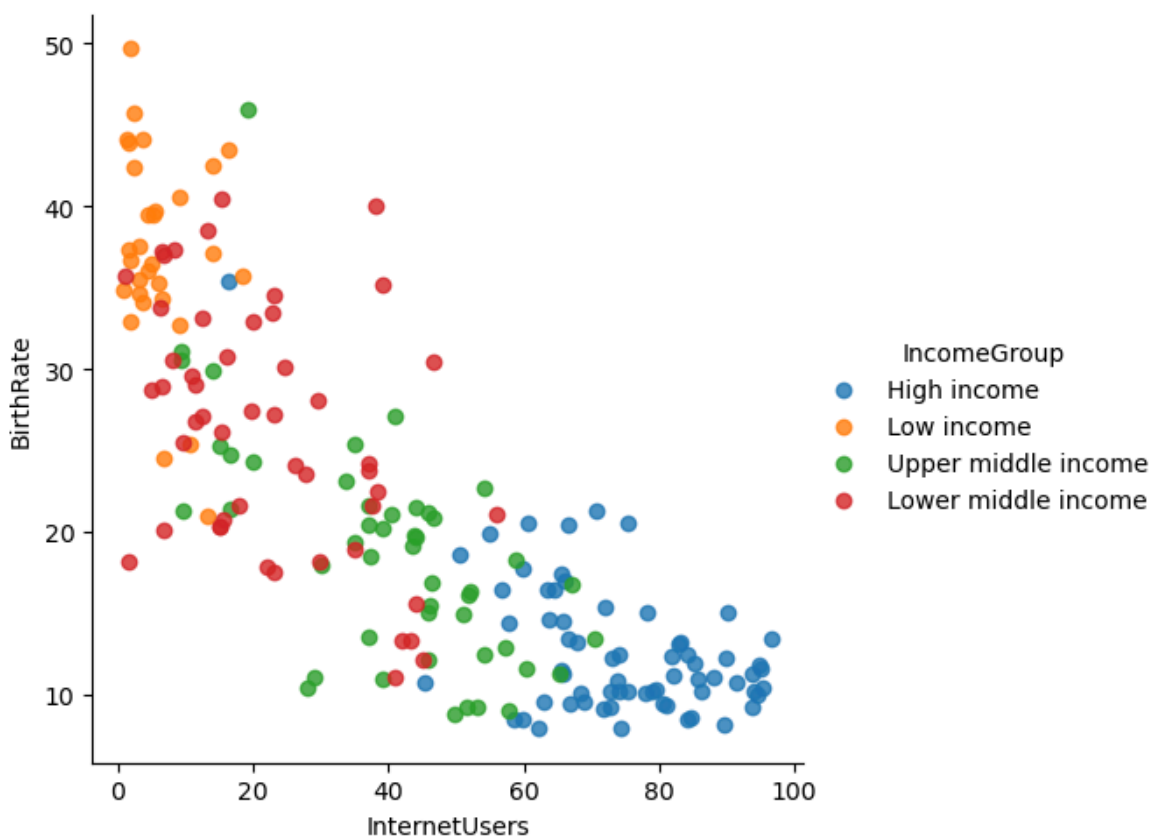
In [239... `vis3 = sns.lmplot(data = stats, x = 'InternetUsers', y = 'BirthRate', fit_reg =`



In [241... `vis4 = sns.lmplot(data = stats, x = 'InternetUsers', y = 'BirthRate')`



```
In [243...] vis5 = sns.lmplot(data = stats, x = 'InternetUsers', y = 'BirthRate',  
                        fit_reg = False, hue = 'IncomeGroup') #hue - parameter for color
```



```
In [245...] vis1 = sns.distplot(stats["InternetUsers"])
```

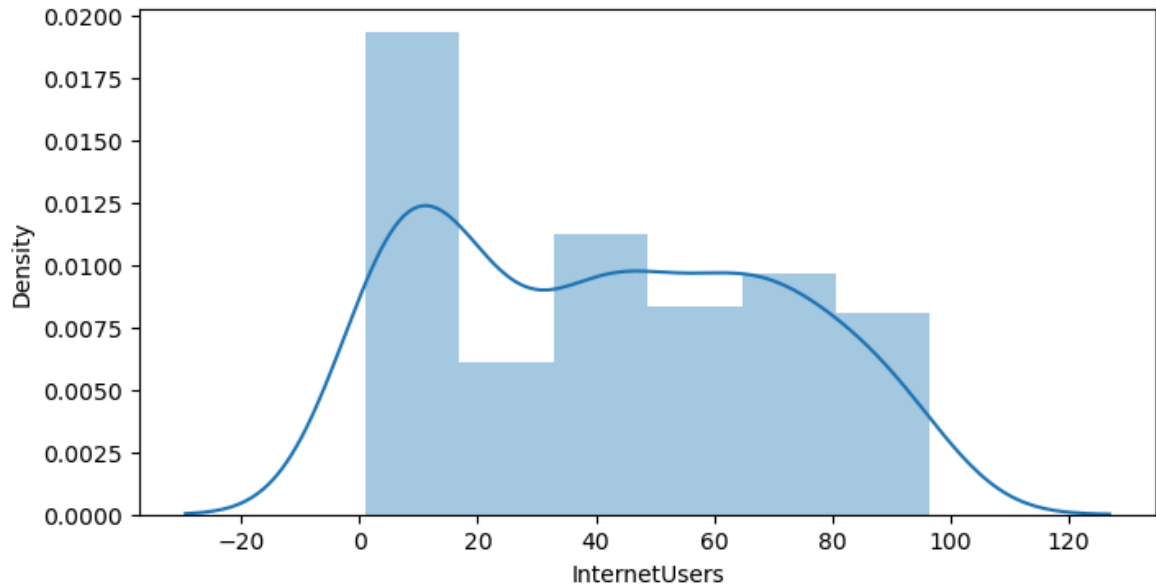
C:\Users\swati\AppData\Local\Temp\ipykernel\_8900\1972857757.py:1: UserWarning:

``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 [247... `vis3 = sns.distplot(stats["InternetUsers"], bins=20)`

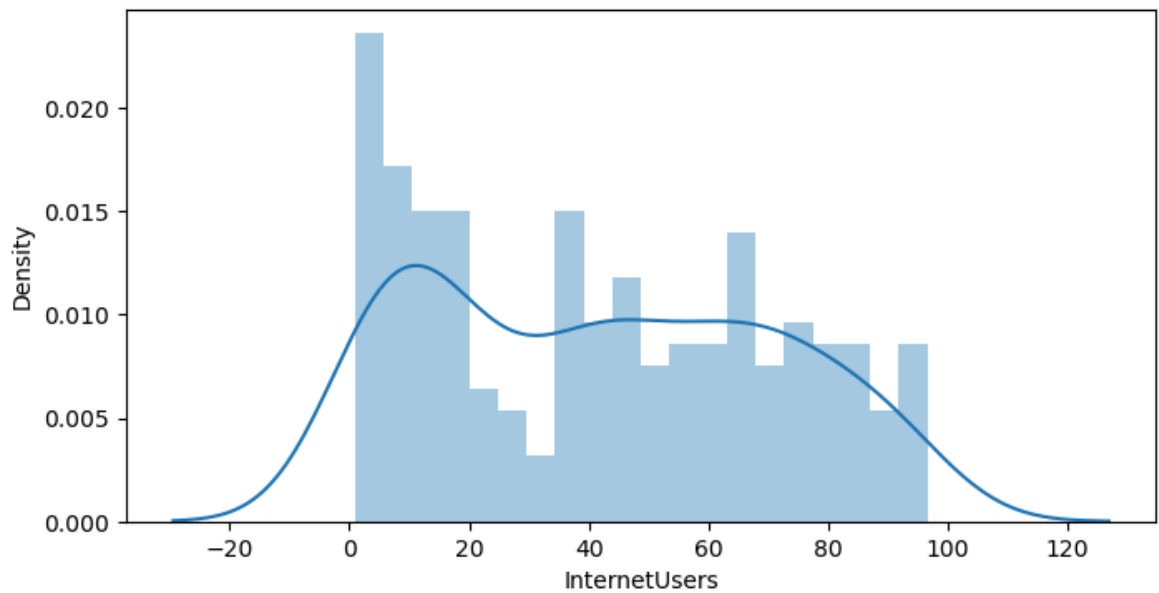
C:\Users\swati\AppData\Local\Temp\ipykernel\_8900\3942625081.py:1: UserWarning:

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

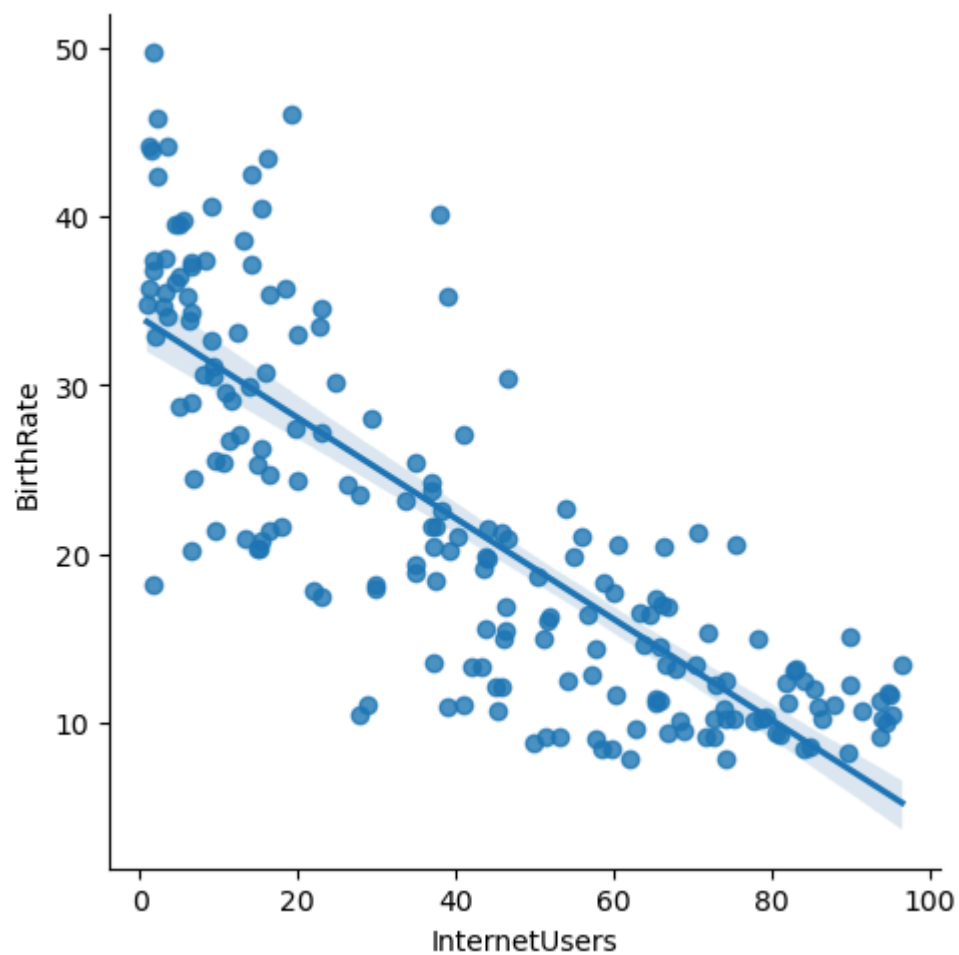
Please adapt your code to use either ``displot`` (a figure-level function with similar flexibility) or ``histplot`` (an axes-level function for histograms).

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

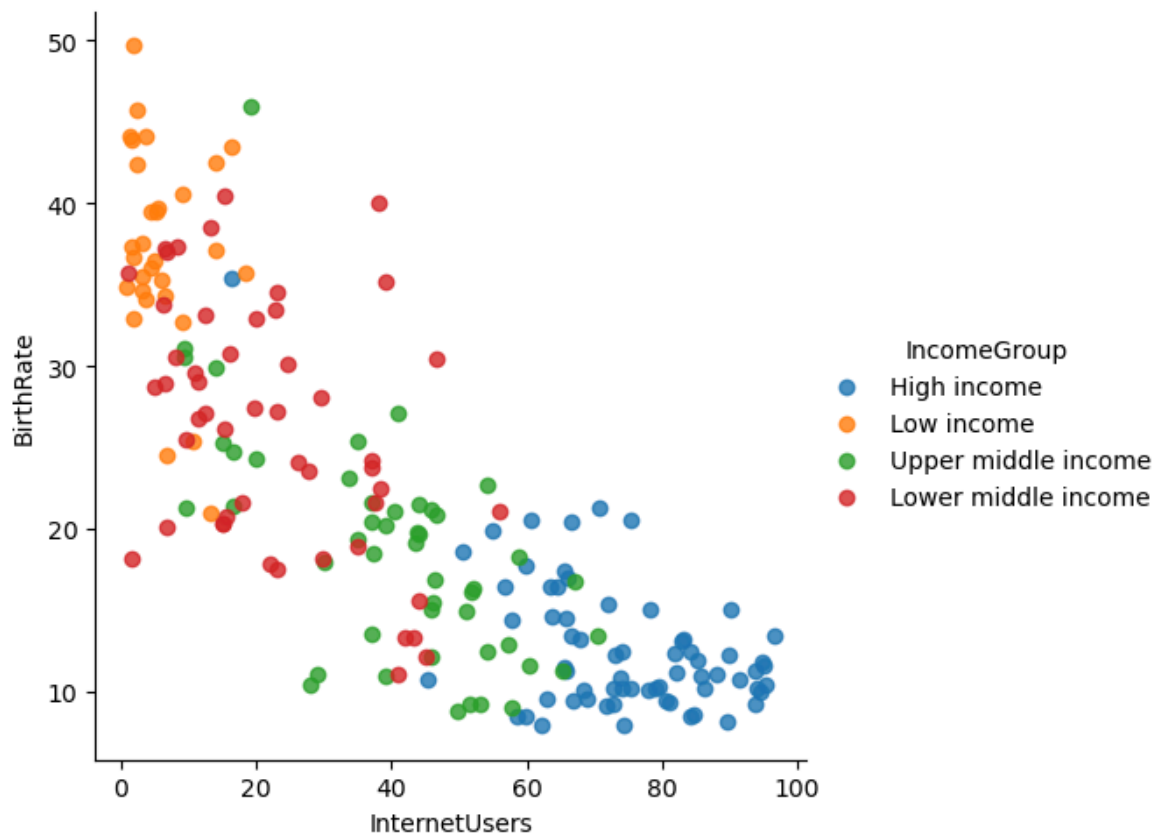
```
vis3 = sns.distplot(stats["InternetUsers"], bins=20)
```



```
In [249... vis5 = sns.lmplot(data = stats, x='InternetUsers', y = 'BirthRate')
```



```
In [253... vis8 = sns.lmplot(data = stats, x='InternetUsers', y = 'BirthRate',  
                    fit_reg = False, hue = 'IncomeGroup')
```



In [ ]:

In [ ]:

In [ ]:

In [ ]:

In [ ]:

In [ ]: