```
import pandas as pd

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

df.head
```

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

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

[195 rows x 5 columns]>
```

```
df.head(2)
```

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

```
df.columns
```

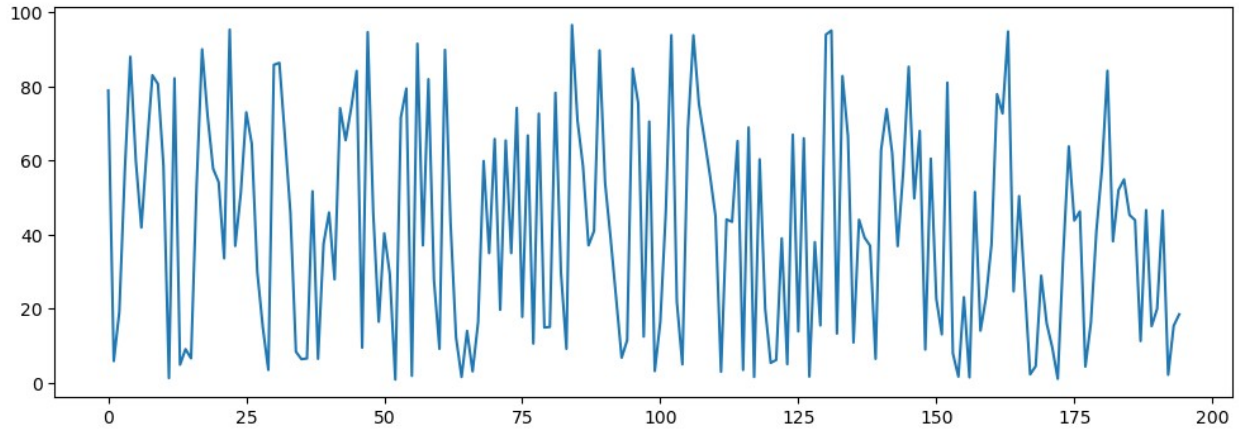
```
Index(['CountryName', 'CountryCode', 'BirthRate', 'InternetUsers',
       'IncomeGroup'],
      dtype='object')
```

```
import matplotlib.pyplot as plt #visualization
import seaborn as sns #distribution/statistical data visualiztion
```

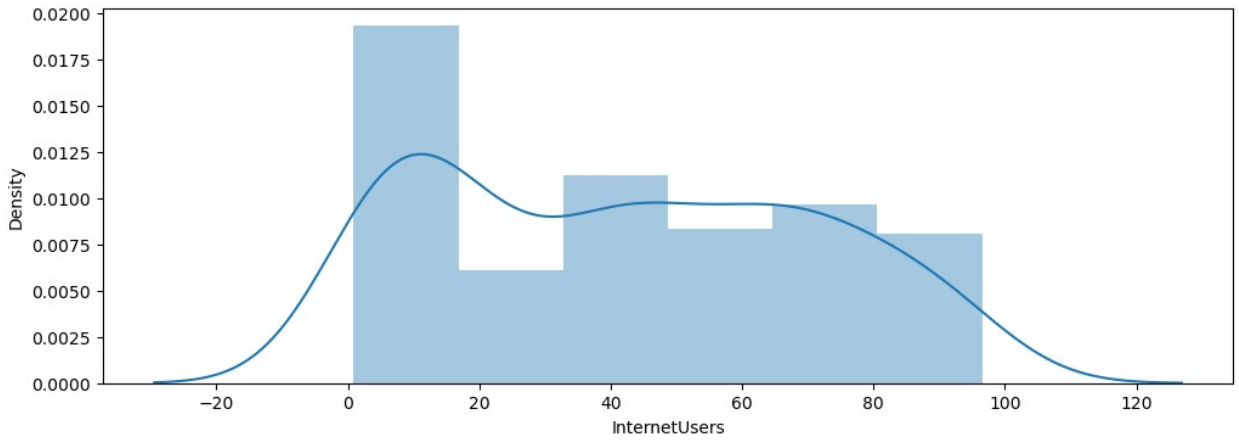
```
%matplotlib inline
plt.rcParams['figure.figsize']=12,4
import warnings
warnings.filterwarnings('ignore')
```

univariate analysis working on single variable.

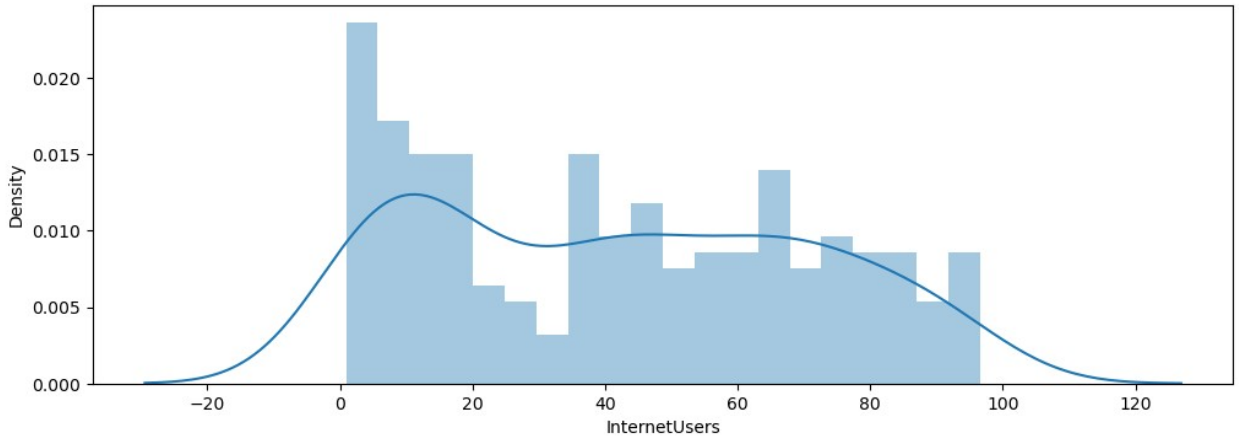
```
plt.plot(df.InternetUsers) #using matplotlib
plt.show()
```



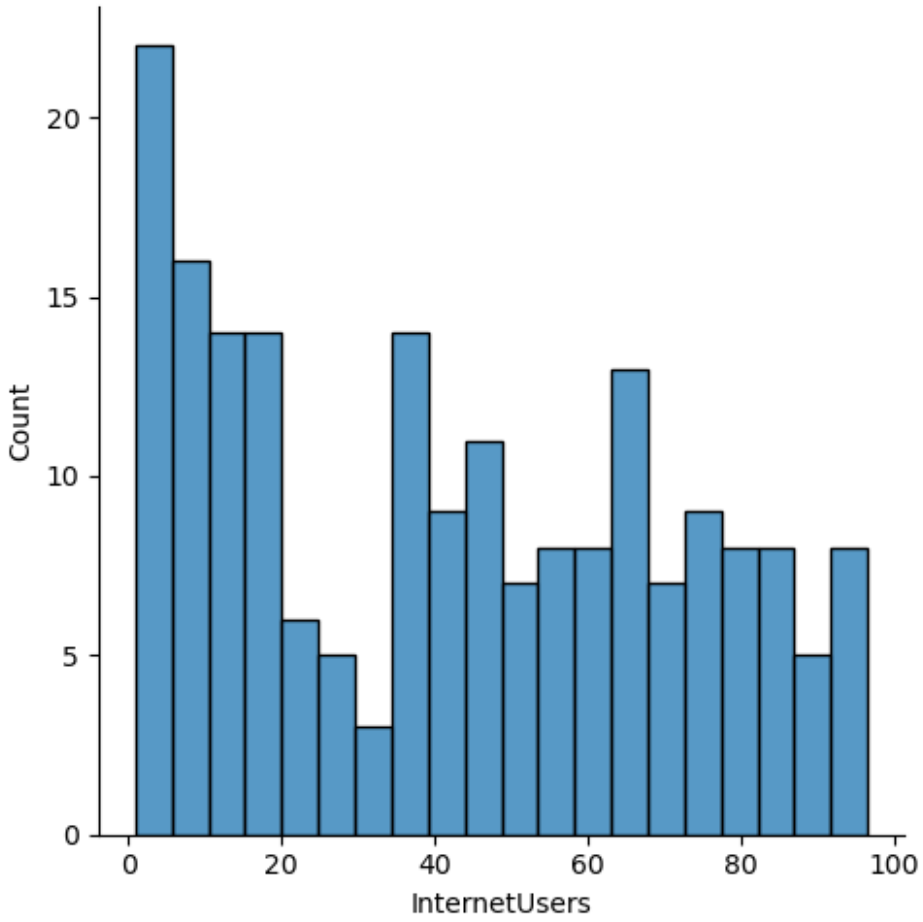

```
sns.distplot(df.InternetUsers) #using seaborn
plt.show()
```



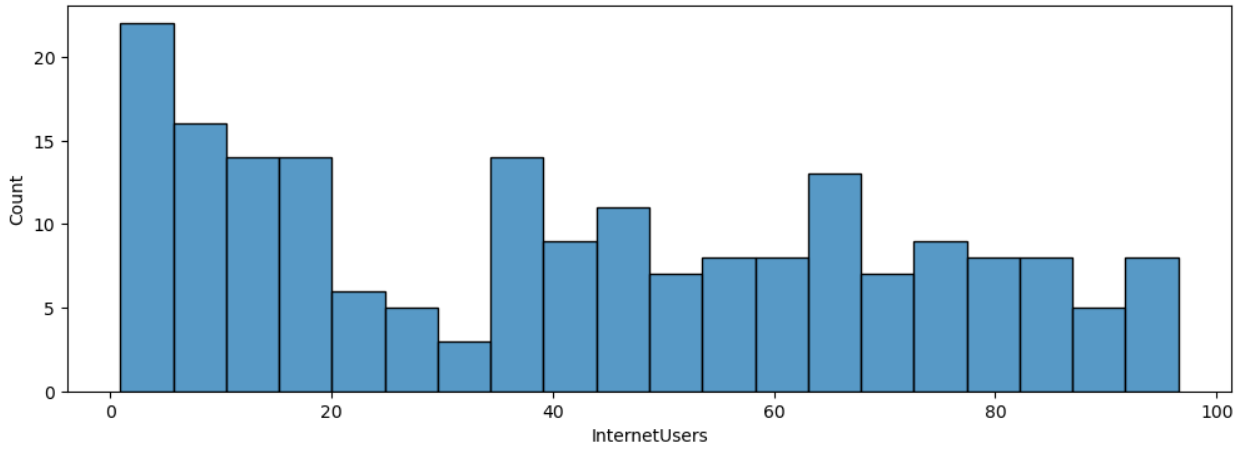

```
sns.distplot((df.InternetUsers),bins=20)
plt.show()
```



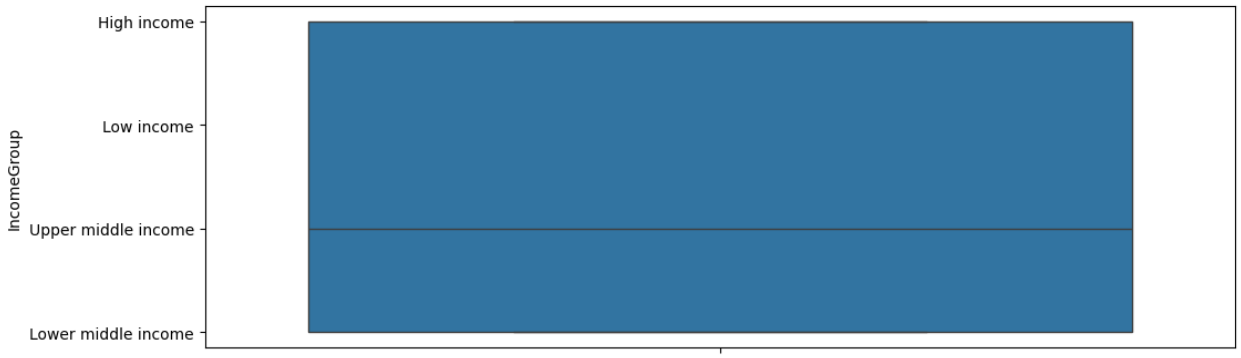

```
sns.displot((df.InternetUsers),bins=20)
plt.show()
```




```
sns.histplot((df.InternetUsers),bins=20)
plt.show()
```

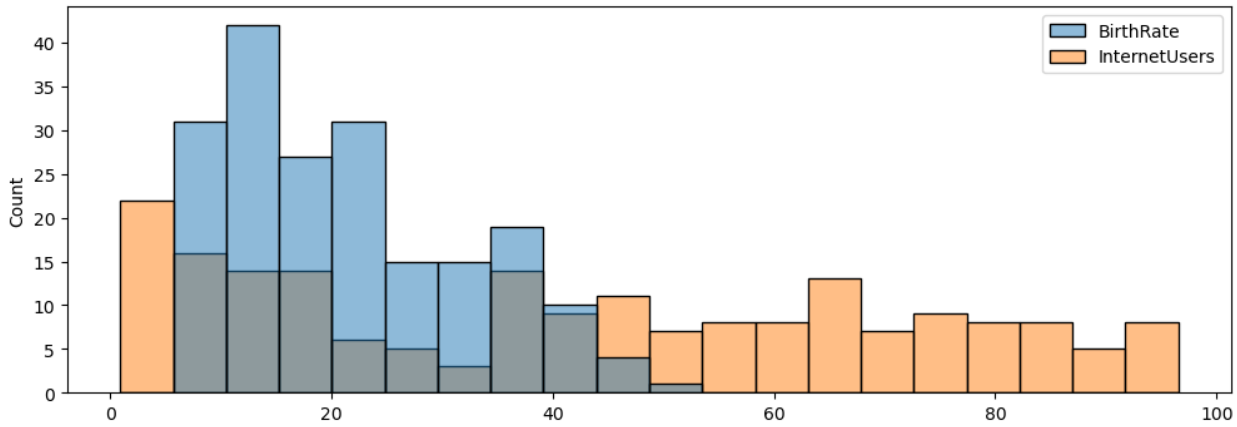



```
sns.boxplot(df.IncomeGroup)
plt.show()
```

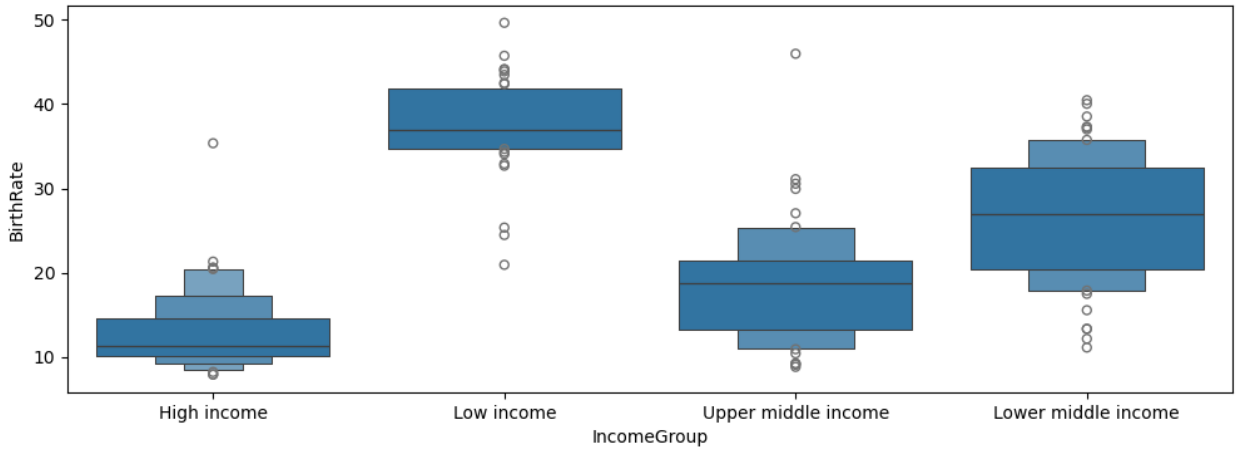


Bivariate analysis working on two variables

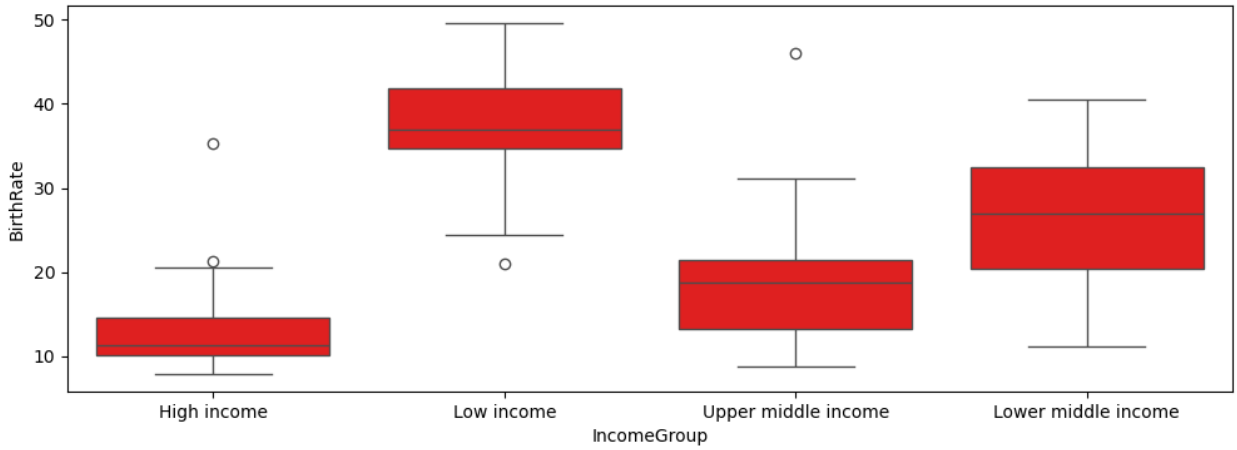
```
sns.histplot((df.BirthRate,df.InternetUsers),bins=20)
plt.show()
```



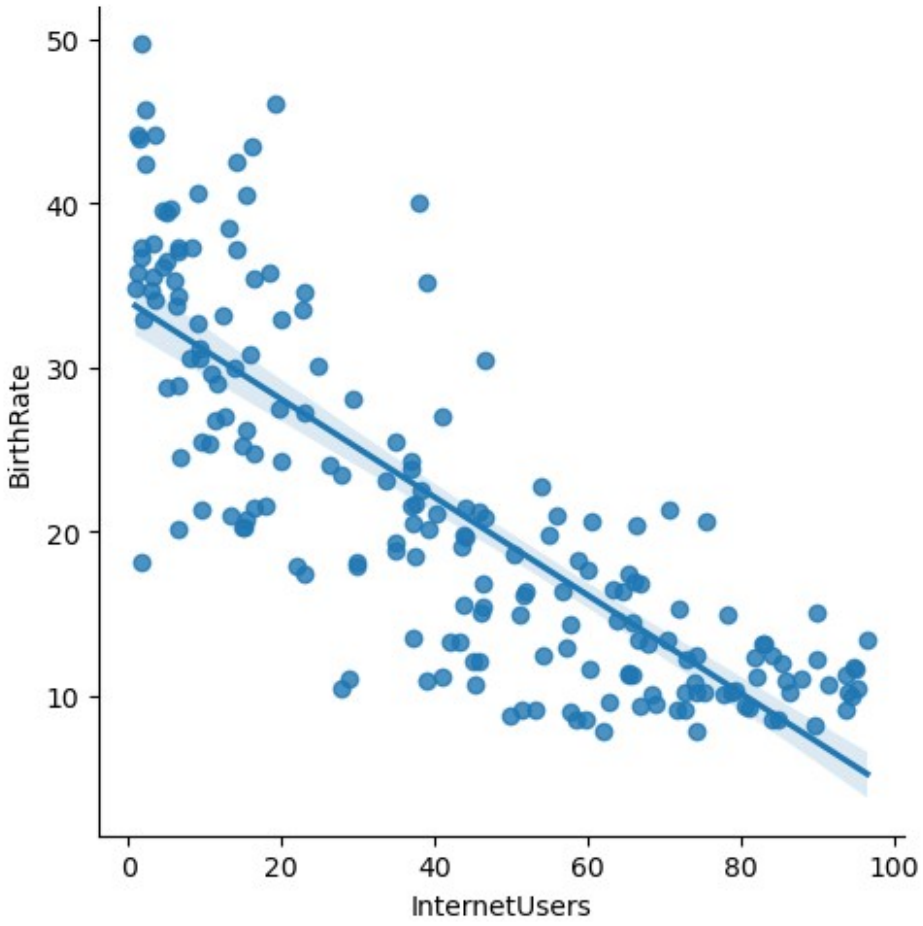
```
sns.boxenplot(data=df ,x='IncomeGroup', y='BirthRate')
plt.show()
```



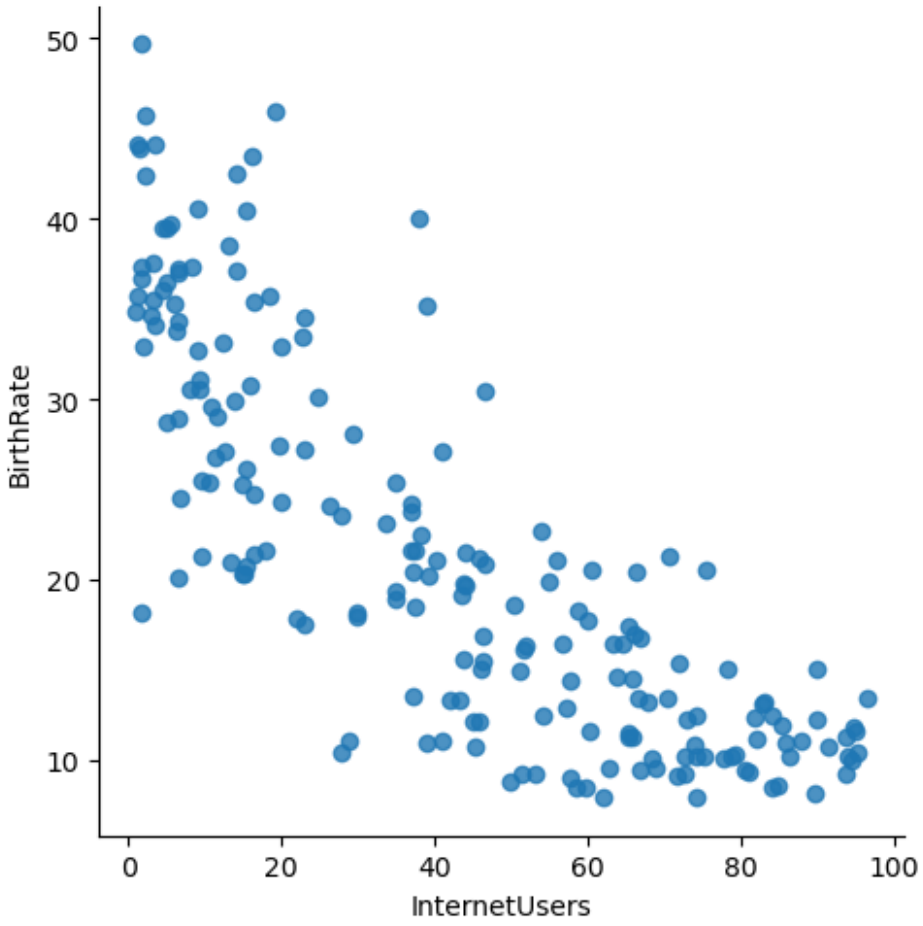

```
sns.boxplot(data=df ,x='IncomeGroup', y='BirthRate',color='r')
plt.show()
```



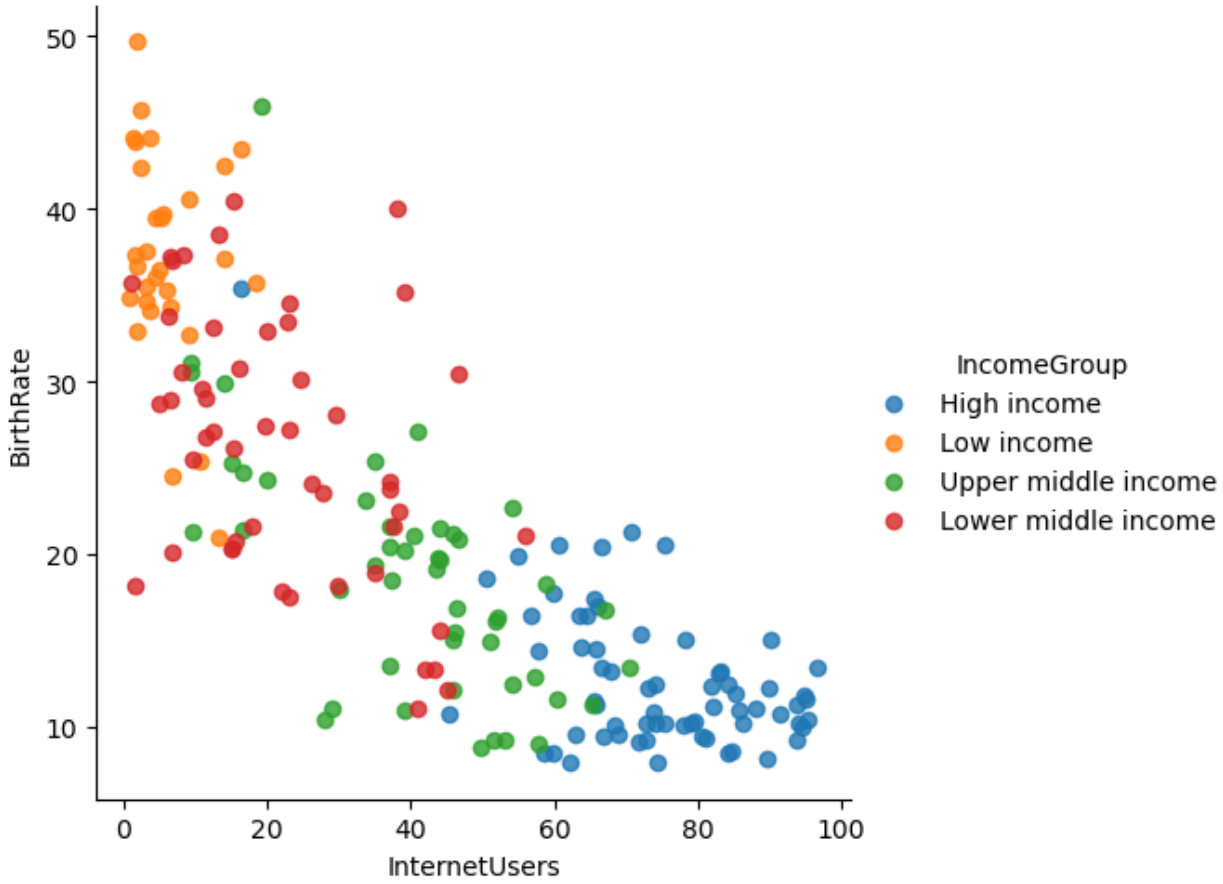

```
sns.lmplot(df,x='InternetUsers',y='BirthRate')
plt.show()
```



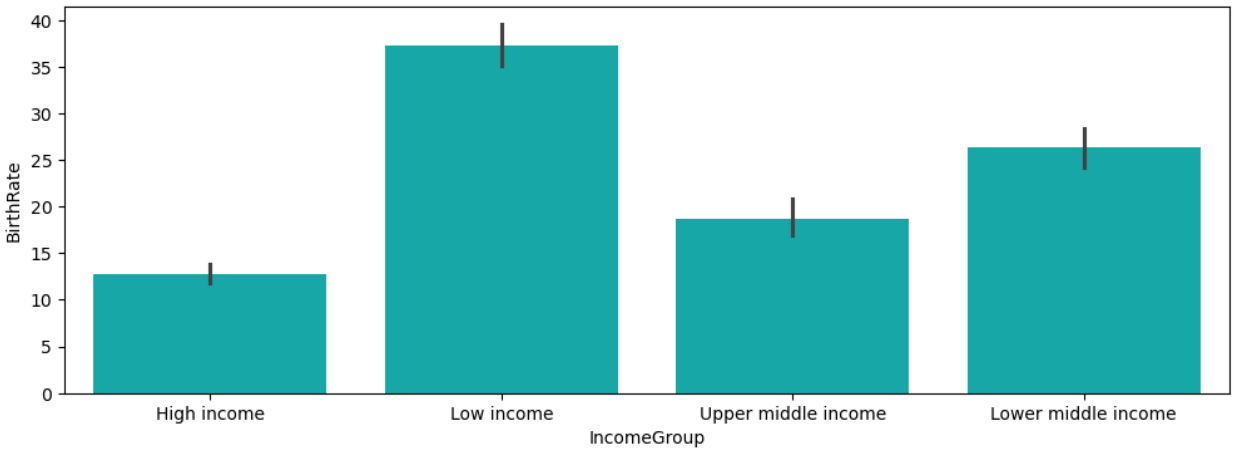

```
sns.lmplot(df,x='InternetUsers',y='BirthRate',fit_reg=False)
plt.show()
```



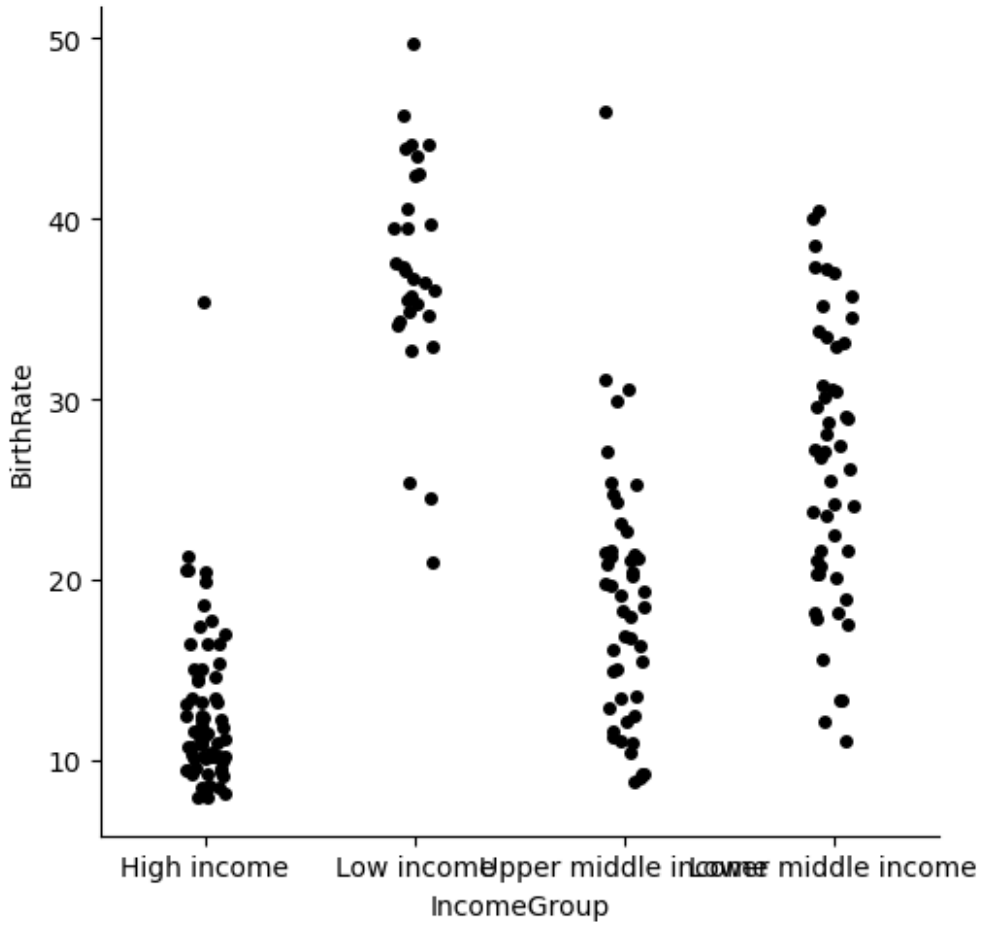

```
sns.lmplot(df,x='InternetUsers',y='BirthRate',hue='IncomeGroup',fit_re
g=False)
plt.show()
```



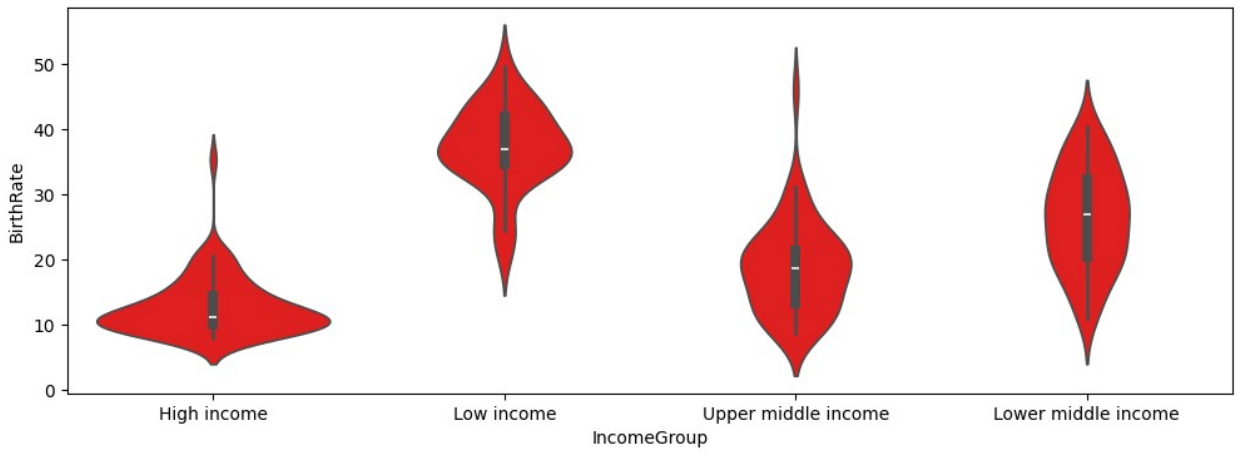

```
sns.barplot(df,x='IncomeGroup',y='BirthRate',color='c')
plt.show()
```



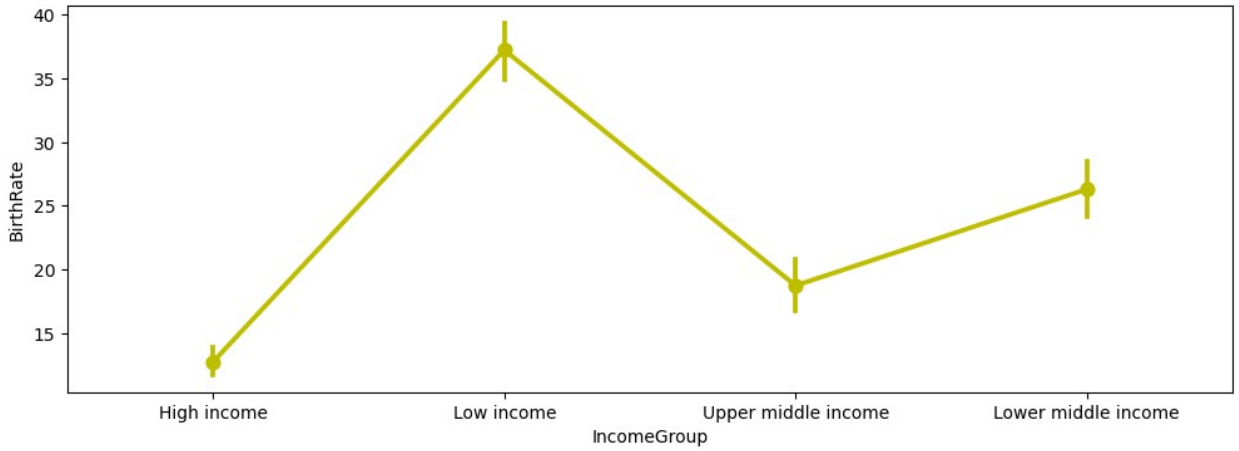

```
sns.catplot(df,x='IncomeGroup',y='BirthRate',color='k')
plt.show()
```




```
sns.violinplot(df,x='IncomeGroup',y='BirthRate',color='r')
plt.show()
```




```
sns.pointplot(df,x='IncomeGroup',y='BirthRate',color='y')
plt.show()
```


40
35
30
25
20
15
BirthRate
High income
Low income
Upper middle income
Lower middle income
IncomeGroup