In [ ]:
```
import pandas as pd
stats = pd.read_csv('E:\Agile\Python Data Science\P4-Demographic-Data.csv')
stats
```

Out[ ]:

	Country Name	Country Code	Birth rate	Internet users	Income Group
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 [ ]:
```
stats[::-1]          #reversing dataframe
```

Out[ ]:

	Country Name	Country Code	Birth rate	Internet users	Income Group
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 [ ]:
```
stats.columns
```

Out[ ]:
```
Index(['Country Name', 'Country Code', 'Birth rate', 'Internet users',
       'Income Group'],
      dtype='object')
```

In [ ]:
```
stats.columns = ['CountryName', 'CountryCode', 'BirthRate', 'InternetUsers',
       'IncomeGroup']           #Renaming the columns
```

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

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

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

Out[ ]:

	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 [ ]:
```
stats['CountryName']        # is not presented in a dataframe format
```

Out[ ]:
```
0                   Aruba
1             Afghanistan
2                  Angola
3                 Albania
4      United Arab Emirates
              ...
190           Yemen, Rep.
191          South Africa
192      Congo, Dem. Rep.
193                Zambia
194              Zimbabwe
Name: CountryName, Length: 195, dtype: object
```

In [ ]:
```
stats['CountryName','BirthRate']  #is giving us an error, since a list should be passed for slicing
```

In [ ]:
```
stats[['CountryName','BirthRate']]      #result is presented as a dataframe
```

Out[ ]:

	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 [ ]:
```
stats[['CountryName','BirthRate']].head()       #just the top 5
```

Out[ ]:

	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 [ ]:
```
stats.BirthRate     #quick accesing the data, note that why the columns are on word
```

Out[ ]:
```
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 [ ]:
```
stats[7:10][1:3]
```

Out[ ]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup
8	Australia	AUS	13.2	83.0000	High income
9	Austria	AUT	9.4	80.6188	High income

In [ ]:
```
Cdict= { 0 : 'CountryName', 1:'CountryCode', 2 : 'BirthRate', 3:'InternetUsers' , 4:'IncomeGroup'}
```

In [ ]:
```
l=[]
for i in range(0,2):
    l.append(Cdict[i])
print(l)
```

```
['CountryName', 'CountryCode']
```

In [ ]:
```
k= [1,4]
l=[]
for i in k:
    l.append(Cdict[i])
print(l)
stats[1:10][l]
```

```
['CountryCode', 'IncomeGroup']
```

Out[ ]:

	CountryCode	IncomeGroup
1	AFG	Low income
2	AGO	Upper middle income
3	ALB	Upper middle income
4	ARE	High income
5	ARG	High income
6	ARM	Lower middle income
7	ATG	High income
8	AUS	High income
9	AUT	High income

In [ ]:
```
stats
```

Out[ ]:

	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 [ ]:
```
stats['MyCalc'] = stats.BirthRate * stats.InternetUsers
stats.head()
```

Out[ ]:

	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 [ ]:
```
stats.drop('MyCalc',axis=1)      # axis by default is zero and zero means rows axis, if we wanna drop a column the column axis (axi
                                 # should be specified in the functionn.   ---  However we drop the column it is not dropped from t
```

Out[ ]:

	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

	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

195 rows × 5 columns

In [ ]:
```
stats       # However we drop the column it is not dropped from the stats dataframe.
```

Out[ ]:

	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
...	...	...	...	...	...	...
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 [ ]:
```
stats.drop(0)           # to drop the records the index should be put in the drop method
```

Out[ ]:

	CountryName	CountryCode	BirthRate	InternetUsers	IncomeGroup	MyCalc
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
5	Argentina	ARG	17.716	59.9	High income	1061.1884
...	...	...	...	...	...	...
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

194 rows × 6 columns

In [ ]:
```
stats       # However we drop the row it is not dropped from the stats dataframe.
```

Out[ ]:

	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
...	...	...	...	...	...	...
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 [ ]:
```
stats = stats.drop('MyCalc',1)     # if we want to keep changes (removing column change), we should overwrite the stats dataframe.
```

```
C:\Users\Mehrannn\AppData\Local\Temp/ipykernel_8768/3164285533.py:1: FutureWarning: In a future version of pandas all arguments of DataFrame.drop except for the argument 'labels' will be keyword-only
  stats = stats.drop('MyCalc',1)     # if we want to keep changes (removing column change), we should overwrite the stats datafram
e.
```

In [ ]:
```
stats       # MyCalc column has been removed
```

Out[ ]:

	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 [ ]: