```
import numpy as np
           \textbf{import} \ \texttt{matplotlib.pyplot} \ \textbf{as} \ \texttt{plt}
           import seaborn as sns
In [21]: # Create a sample dataframe
           data = {'Age': [25, 30, 35, 40, 45], 'Gender': ['Male', 'Female', 'Male', 'Female', 'Male']}
           df = pd.DataFrame(data)
             Age Gender
Out[21]:
                     Male
               30
                   Female
               35
                     Male
               40
                   Female
               45
                     Male
In [22]: # Plot a bar chart for the distribution of genders
           plt.figure(figsize=(8, 6))
           df['Gender'].value_counts().plot(kind='bar', color='skyblue')
           plt.title('Distribution of Genders')
           plt.xlabel('Gender')
plt.ylabel('Count')
```

In [2]: import pandas as pd

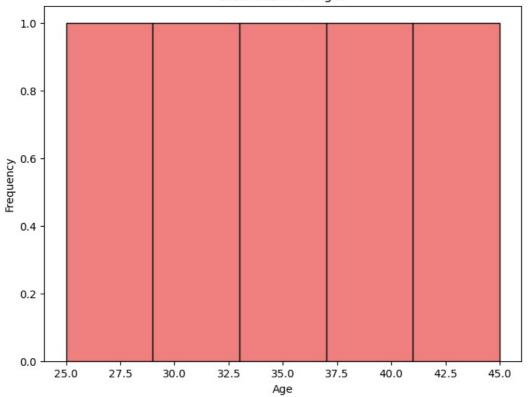
plt.show()

2.5 - 2.0 - 2.5 - 2.0 - 2.5 - 2.0 - 2.5 - 2.0 - 2.5 - 2.0 - 2.5 - 2.0 - 2.5 - 2.0 - 2.5 - 2.0 - 2.5 - 2.0 - 2.5 - 2.0 - 2.5 - 2.0 - 2.5 - 2.0 - 2.5 - 2.0 - 2.5 - 2.0 - 2.5 - 2.0 - 2.5 - 2.0 - 2.5 - 2.0 -

```
In [23]: # Plot a histogram for the distribution of ages
plt.figure(figsize=(8, 6))
plt.hist(df['Age'], bins=5, color='lightcoral', edgecolor='black')
plt.title('Distribution of Ages')
plt.xlabel('Age')
plt.ylabel('Frequency')
plt.show()
```

Gender

Distribution of Ages



In [8]: # Load the data
 df = pd.read_csv("C:\\Users\\rakhi\\Downloads\\API_SP.POP.TOTL_DS2_en_csv_v2_85\\Metadata_Country_API_SP.POP.TO
 df

Country Code	Region	IncomeGroup	SpecialNotes	TableName	Unnamed: 5
ABW	Latin America & Caribbean	High income	NaN	Aruba	NaN
AFE	NaN	NaN	26 countries, stretching from the Red Sea in $$t_{\cdot\cdot\cdot}$$	Africa Eastern and Southern	NaN
AFG	South Asia	Low income	The reporting period for national accounts dat	Afghanistan	NaN
AFW	NaN	NaN	22 countries, stretching from the westernmost	Africa Western and Central	NaN
AGO	Sub-Saharan Africa	Lower middle income	The World Bank systematically assesses the app	Angola	NaN

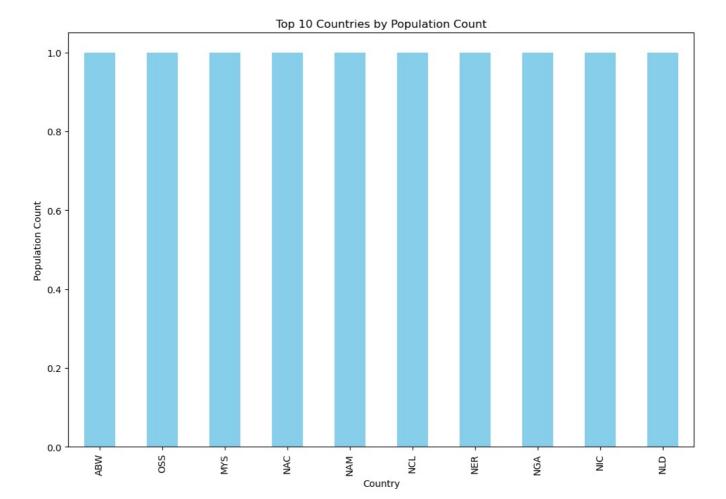
XKX	Europe & Central Asia	Upper middle income	NaN	Kosovo	NaN
YEM	Middle East & North Africa	Low income	The World Bank systematically assesses the app	Yemen, Rep.	NaN
ZAF	Sub-Saharan Africa	Upper middle income	Fiscal year end: March 31; reporting period fo	South Africa	NaN
ZMB	Sub-Saharan Africa	Lower middle income	National accounts data were rebased to reflect	Zambia	NaN
ZWE	Sub-Saharan Africa	Lower middle income	National Accounts data are reported in Zimbabw	Zimbabwe	NaN
	ABW AFE AFG AFW AGO XKX YEM ZAF ZMB	ABW Latin America & Caribbean AFE NaN AFG South Asia AFW NaN AGO Sub-Saharan Africa XKX Europe & Central Asia YEM Middle East & North Africa ZAF Sub-Saharan Africa ZMB Sub-Saharan Africa	ABW Latin America & Caribbean High income AFE NaN NaN AFG South Asia Low income AFW NaN NaN AGO Sub-Saharan Africa Lower middle income XKX Europe & Central Asia Upper middle income YEM Middle East & North Africa Low income ZAF Sub-Saharan Africa Upper middle income ZMB Sub-Saharan Africa Lower middle income ZWE Sub-Saharan Africa Lower middle income	ABW Latin America & Caribbean High income AFE NaN NaN 26 countries, stretching from the Red Sea in t AFG South Asia Low income The reporting period for national accounts dat AFW NaN NaN 22 countries, stretching from the westernmost dat AFW NaN NaN The World Bank systematically assesses the app AGO Sub-Saharan Africa Upper middle income The World Bank systematically assesses the app XKX Europe & Central Asia Upper middle income The World Bank systematically assesses the app NaN YEM Middle East & North Africa Low income Fiscal year end: March 31; reporting period fo ZMB Sub-Saharan Africa Lower middle income National accounts data were rebased to reflect TWE Sub-Saharan Africa Lower middle National Accounts data are reported in	Code Region IncomeGroup SpecialNotes TableName ABW Latin America & Caribbean High income NaN Aruba AFE NaN NaN 26 countries, stretching from the Red Sea in t Africa Eastern and Southern AFG South Asia Low income The reporting period for national accounts dat Afghanistan AFW NaN NaN 22 countries, stretching from the westernmost Africa Western and Central AGO Sub-Saharan Africa Lower middle income The World Bank systematically assesses the app Angola XKX Europe & Central Asia Upper middle income NaN Kosovo YEM Middle East & North Africa Low income The World Bank systematically assesses the app Yemen, Rep. ZAF Sub-Saharan Africa Upper middle income Fiscal year end: March 31; reporting period fo South Africa ZMB Sub-Saharan Africa Lower middle income National accounts data were rebased to reflect Zambia

265 rows × 6 columns

In [10]: df.head()

Out[8]:

```
Unnamed:
                  Country
                                        Region
                                                    IncomeGroup
                                                                                            SpecialNotes
                                                                                                                    TableName
                    Code
                                                                                                                                        5
                                 Latin America &
           0
                     ABW
                                                                                                                                     NaN
                                                      High income
                                                                                                   NaN
                                                                                                                         Aruba
                                      Caribbean
                                                                                                               Africa Eastern and
           1
                     AFE
                                           NaN
                                                                 26 countries, stretching from the Red Sea in t...
                                                                                                                                      NaN
                                                            NaN
                                                                                                                       Southern
                                                                      The reporting period for national accounts
           2
                     AFG
                                      South Asia
                                                      Low income
                                                                                                                    Afghanistan
                                                                                                                                     NaN
                                                                                                               Africa Western and
                                                                   22 countries, stretching from the westernmost
                     AFW
           3
                                           NaN
                                                            NaN
                                                                                                                                     NaN
                                                                                                                        Central
                                                     Lower middle
                                                                    The World Bank systematically assesses the
           4
                     AGO
                               Sub-Saharan Africa
                                                                                                                                     NaN
                                                                                                                        Angola
                                                          income
In [11]: df.tail()
                Country Code
                                            Region
                                                                                                    SpecialNotes
                                                                                                                  TableName Unnamed: 5
Out[11]:
                                                         IncomeGroup
           260
                        XKX
                                Europe & Central Asia
                                                    Upper middle income
                                                                                                            NaN
                                                                                                                      Kosovo
                                                                                                                                    NaN
           261
                        YEM
                             Middle East & North Africa
                                                                                                                                    NaN
                                                            Low income
                                                                      The World Bank systematically assesses the app...
                                                                                                                 Yemen, Rep.
           262
                        ZAF
                                   Sub-Saharan Africa Upper middle income
                                                                          Fiscal year end: March 31; reporting period fo...
                                                                                                                  South Africa
                                                                                                                                    NaN
           263
                        ZMB
                                   Sub-Saharan Africa
                                                    Lower middle income
                                                                         National accounts data were rebased to reflect...
                                                                                                                      Zambia
                                                                                                                                    NaN
           264
                        ZWE
                                   Sub-Saharan Africa
                                                                                                                   Zimbabwe
                                                                                                                                    NaN
                                                    Lower middle income
                                                                        National Accounts data are reported in Zimbabw...
In [12]:
           df.describe()
                 Unnamed: 5
Out[12]:
                         0.0
           count
           mean
                        NaN
             std
                        NaN
                        NaN
            min
            25%
                        NaN
            50%
                        NaN
            75%
                        NaN
            max
                        NaN
In [13]: df.info()
           <class 'pandas.core.frame.DataFrame'>
           RangeIndex: 265 entries, 0 to 264
           Data columns (total 6 columns):
                                 Non-Null Count
                                                    Dtype
            #
                Column
            0
                Country Code
                                 265 non-null
                                                    object
                                 217 non-null
            1
                Region
                                                    object
            2
                IncomeGroup
                                 216 non-null
                                                    object
            3
                SpecialNotes
                                 126 non-null
                                                    object
                TableName
                                 265 non-null
                                                    object
                Unnamed: 5
                                 0 non-null
                                                    float64
           dtypes: float64(1), object(5)
           memory usage: 12.6+ KB
In [14]: df.isnull().sum()
           Country Code
                                0
Out[14]:
                              48
           Region
           IncomeGroup
                               49
           SpecialNotes
                             139
           TableName
                                0
           Unnamed: 5
                             265
           dtype: int64
In [16]: df.columns
           Index(['Country Code', 'Region', 'IncomeGroup', 'SpecialNotes', 'TableName',
Out[16]:
                   'Unnamed: 5'],
                  dtype='object')
          # Plot a bar chart for the distribution of countries
In [15]:
           plt.figure(figsize=(12, 8))
           df['Country Code'].value_counts().head(10).plot(kind='bar', color='skyblue')
           plt.title('Top 10 Countries by Population Count')
           plt.xlabel('Country')
           plt.ylabel('Population Count')
           plt.show()
```



In [17]: # Load the Metadata_Indicator file to examine its contents
 metadata_indicator_df = pd.read_csv("C:\\Users\\rakhi\\Downloads\\API_SP.POP.TOTL_DS2_en_csv_v2_85\\Metadata_In
 metadata_indicator_df

 Out [17]:
 INDICATOR_CODE
 INDICATOR_NAME
 SOURCE_NOTE
 SOURCE_ORGANIZATION
 Unnamed: 4

 0
 SP.POP.TOTL
 Population, total
 Total population is based on the defacto doffi
 (1) United Nations Population Division. World
 NaN

In [18]: # Display the first few rows of the dataframe
display(metadata_indicator_df.head())

	INDICATOR_CODE	INDICATOR_NAME	SOURCE_NOTE	SOURCE_ORGANIZATION	Unnamed: 4
0	SP.POP.TOTL	Population, total	Total population is based on the de facto defi	(1) United Nations Population Division. World	NaN

In [19]: metadata_indicator_df.columns = metadata_indicator_df.iloc[0]
 metadata_indicator_df = metadata_indicator_df[1:]
 metadata_indicator_df

Out[19]:

SP.POP.TOTL Population,

Total population is based on the de facto definition of population, which counts all residents regardless of legal status or citizenship. The values shown are midyear estimates.

(1) United Nations Population Division. World Population Prospects: 2022 Revision. (2) Census reports and other statistical publications from national statistical offices, (3) Eurostat: Demographic Statistics, (4) United Nations Statistical Division. Population and Vital Statistics Reprot (various years), (5) U.S. Census Bureau: International Database, and (6) Secretariat of the Pacific Community: Statistics and Demography Programme.

NaN

In []:

Loading [MathJax]/jax/output/CommonHTML/fonts/TeX/fontdata.js