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import pandas as pd

import matplotlib.pyplot as plt

# Load the dataset

# IMPORTANT: Download CSV manually from:

# https://data.worldbank.org/indicator/SP.POP.TOTL

# Place the file in the same directory and update the filename below if needed

filename =
r"C:\Users\admin\Desktop\python\population.csv\API_SP.POP.TOTL_DS2_en_csv_v2_38144.csv" #
Update this if different


# Skip first 4 rows (metadata)

df = pd.read_csv(filename, skiprows=4)


# Select the year to analyze

year = '2022'


# Extract relevant columns

df_year = df[['Country Name', year]].dropna()


# Sort by population descending

df_year_sorted = df_year.sort_values(by=year, ascending=False)


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# Bar Chart: Top 10 Countries

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top10 = df_year_sorted.head(10)


plt.figure(figsize=(12,6))

plt.bar(top10['Country Name'], top10[year]/1e6, color='skyblue')

plt.xlabel('Country')

plt.ylabel('Population (millions)')

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plt.title('Top 10 Most Populous Countries in 2022')
plt.xticks(rotation=45)
plt.tight_layout()
plt.show()

# -----
# Histogram: Distribution of Populations
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plt.figure(figsize=(10,6))
plt.hist(df_year[year]/1e6, bins=20, edgecolor='black')
plt.xlabel('Population (millions)')
plt.ylabel('Number of Countries')
plt.title('Distribution of Country Populations in 2022')
plt.tight_layout()
plt.show()
```