In [2]:
```
!pip install pandas
import pandas as pd
```

```
Requirement already satisfied: pandas in c:\users\larona\appdata\local\programs\pyth
on\python313\lib\site-packages (2.3.1)
Requirement already satisfied: numpy>=1.26.0 in c:\users\larona\appdata\local\progra
ms\python\python313\lib\site-packages (from pandas) (2.3.2)
Requirement already satisfied: python-dateutil>=2.8.2 in c:\users\larona\appdata\loc
al\programs\python\python313\lib\site-packages (from pandas) (2.9.0.post0)
Requirement already satisfied: pytz>=2020.1 in c:\users\larona\appdata\local\program
s\python\python313\lib\site-packages (from pandas) (2025.2)
Requirement already satisfied: tzdata>=2022.7 in c:\users\larona\appdata\local\progr
ams\python\python313\lib\site-packages (from pandas) (2025.2)
Requirement already satisfied: six>=1.5 in c:\users\larona\appdata\local\programs\py
thon\python313\lib\site-packages (from python-dateutil>=2.8.2->pandas) (1.17.0)
```

Uploaded the data and reviewed it to see if they are any errors that need to be fixed

In [3]:
```
dataset = pd.read_excel("T1data.xlsx", engine="openpyxl")
```

In [4]:
```
dataset
```

Out[4]:

	Country Name,Country Code"	Indicator Name	Indicator Code	1960	1961	1962	1
0	Aruba	ABW	Population, total	SP.POP.TOTL	54922.0	55578.0	563
1	Africa Eastern and Southern	AFE	Population, total	SP.POP.TOTL	130075728.0	133534923.0	1371716
2	Afghanistan	AFG	Population, total	SP.POP.TOTL	9035043.0	9214083.0	94044
3	Africa Western and Central	AFW	Population, total	SP.POP.TOTL	97630925.0	99706674.0	1018547
4	Angola	AGO	Population, total	SP.POP.TOTL	5231654.0	5301583.0	53543
...	...	...	...	...	...	...	
261	Kosovo	XKX	Population, total	SP.POP.TOTL	984846.0	1011421.0	10369
262	Yemen, Rep.	YEM	Population, total	SP.POP.TOTL	5532301.0	5655232.0	57822
263	South Africa	ZAF	Population, total	SP.POP.TOTL	16440172.0	16908035.0	174185
264	Zambia	ZMB	Population, total	SP.POP.TOTL	3153729.0	3254086.0	33580
265	Zimbabwe	ZWE	Population, total	SP.POP.TOTL	3809389.0	3930401.0	40559

266 rows × 69 columns

Fixed the names of the columns

In [5]:
```
dataset.rename(columns={'Country Name,Country Code"': 'Country Name','Indicator Nam
dataset
```

Out[5]:

	Country Name	Country Code	Indicator Name	Indicator Code	1960	1961	1962
0	Aruba	ABW	Population, total	SP.POP.TOTL	54922.0	55578.0	56320.0
1	Africa Eastern and Southern	AFE	Population, total	SP.POP.TOTL	130075728.0	133534923.0	137171659.0
2	Afghanistan	AFG	Population, total	SP.POP.TOTL	9035043.0	9214083.0	9404406.0
3	Africa Western and Central	AFW	Population, total	SP.POP.TOTL	97630925.0	99706674.0	101854756.0
4	Angola	AGO	Population, total	SP.POP.TOTL	5231654.0	5301583.0	5354310.0
...	...	...	...	...	...	...	...
261	Kosovo	XKX	Population, total	SP.POP.TOTL	984846.0	1011421.0	1036950.0
262	Yemen, Rep.	YEM	Population, total	SP.POP.TOTL	5532301.0	5655232.0	5782221.0
263	South Africa	ZAF	Population, total	SP.POP.TOTL	16440172.0	16908035.0	17418522.0
264	Zambia	ZMB	Population, total	SP.POP.TOTL	3153729.0	3254086.0	3358099.0
265	Zimbabwe	ZWE	Population, total	SP.POP.TOTL	3809389.0	3930401.0	4055959.0

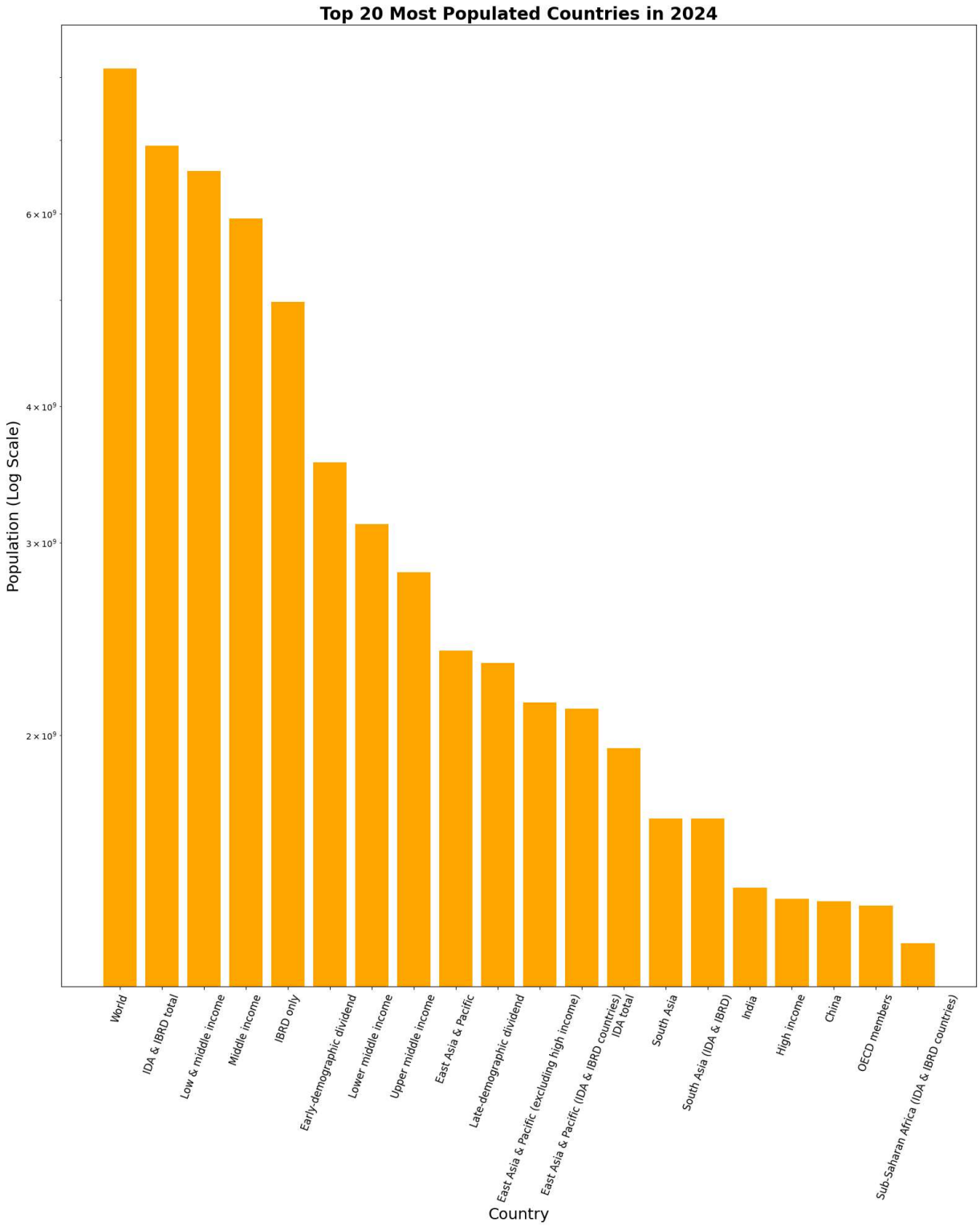
266 rows × 69 columns

Made a bar charts representing or showing information

In [6]:
```
import matplotlib.pyplot as plt
%matplotlib inline
from matplotlib import style
```

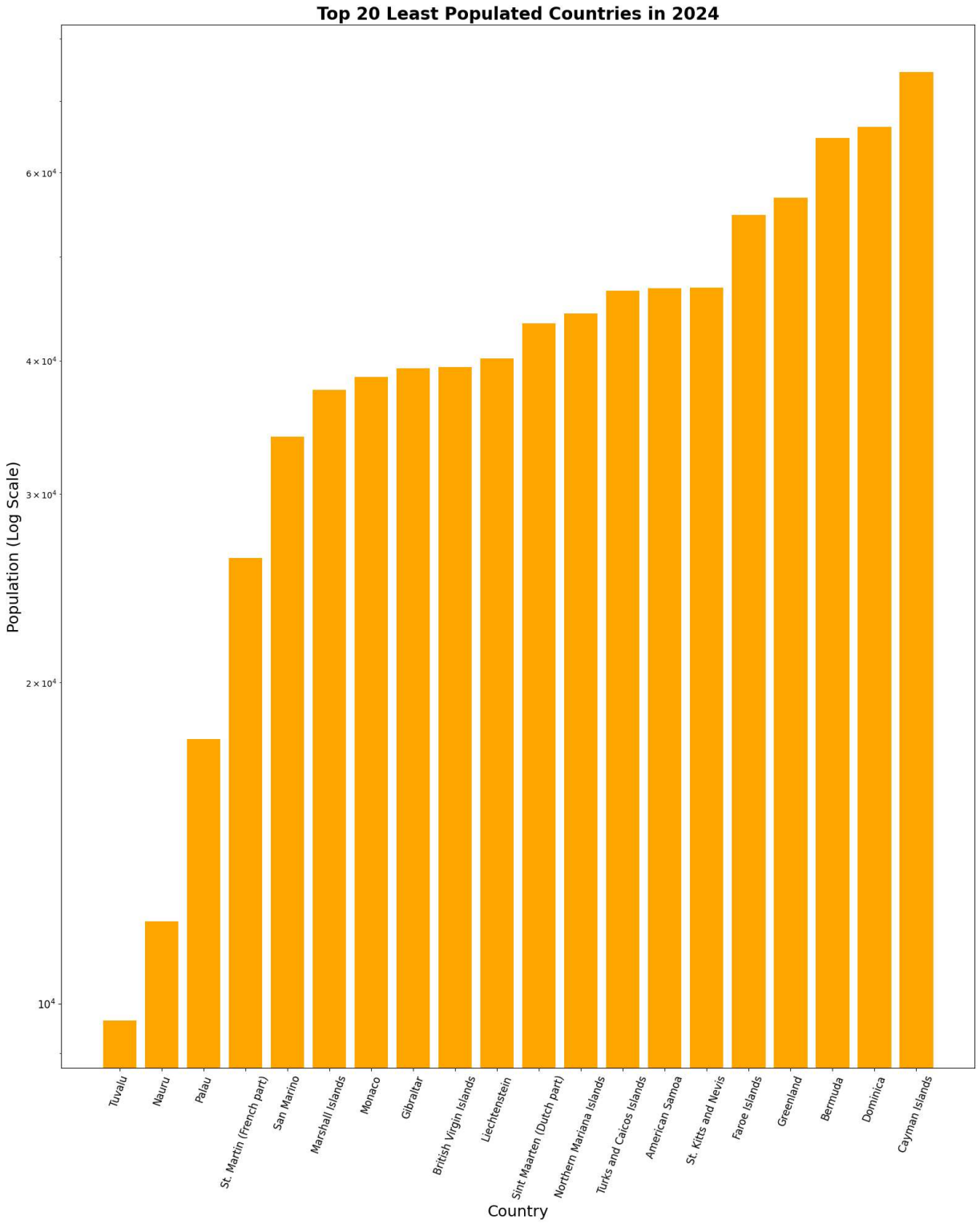
In [8]:
```
top_countries = dataset.sort_values(by='2024', ascending=False).head(20)

plt.figure(figsize=(16, 20))
plt.bar(top_countries['Country Name'], top_countries['2024'], color='orange')

# Titles and labels
plt.title('Top 20 Most Populated Countries in 2024', fontsize=20, fontweight='bold'
```

```
plt.xlabel('Country', fontsize=18)
plt.ylabel('Population (Log Scale)', fontsize=18)

# Use log scale
plt.yscale('log')

# Increase font size for ticks
plt.xticks(rotation=70, fontsize=12)     # X-axis
plt.tick_params(axis='y', labelsize=12)  # Y-axis  <-- Added this line
plt.tight_layout()
plt.savefig('most_populated_countries_2024.png', dpi=300, bbox_inches='tight')
plt.show()
```



In [9]:
```
top_countries = dataset.sort_values(by='2024', ascending=True).head(20)

plt.figure(figsize=(16, 20))
plt.bar(top_countries['Country Name'], top_countries['2024'], color='orange')

# Titles and labels
plt.title('Top 20 Least Populated Countries in 2024', fontsize=20, fontweight='bold
plt.xlabel('Country', fontsize=18)
plt.ylabel('Population (Log Scale)', fontsize=18)
```

```
# Use log scale
plt.yscale('log')

# Increase font size for ticks
plt.xticks(rotation=70, fontsize=12)      # X-axis
plt.tick_params(axis='y', labelsize=12)  # Y-axis  <-- Added this line
plt.tight_layout()
plt.savefig('Least_populated_countries_2024.png', dpi=300, bbox_inches='tight')
plt.show()
```



In [ ]: