**Code:**

*# setting up my environment*

import numpy as np

import pandas as pd

import seaborn as sns

from plotly.subplots import make\_subplots

import matplotlib.pyplot as plt

!pip install itables

from itables import init\_notebook\_mode

from itables import show

import plotly.express as px

from plotly.offline import iplot, init\_notebook\_mode

import plotly.offline as py

py.init\_notebook\_mode(connected=True)

import warnings

warnings.filterwarnings('ignore')

*# plotting world population trend since 1970*

plt.subplots(figsize=(10,5))

trend = df.iloc[:,5:13].sum()[::-1]

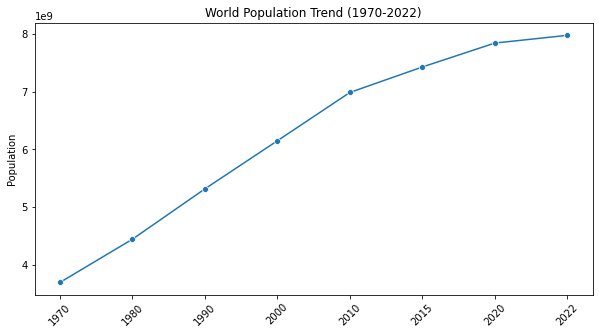
sns.lineplot(x=trend.index, y=trend.values, marker="o")

plt.xticks(rotation=45)

plt.ylabel("Population")

plt.title("World Population Trend (1970-2022)")

plt.show()



continent\_df['2022'].plot(kind = 'pie', figsize=(10,5), shadow=True, autopct='**%1.1f%%**') *# autopct create %*

plt.title(' Population Distribution by Continent')

plt.axis('equal')

plt.show()

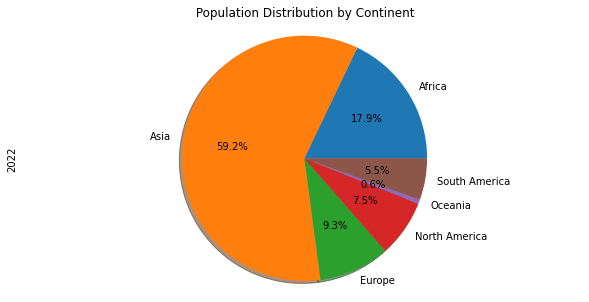
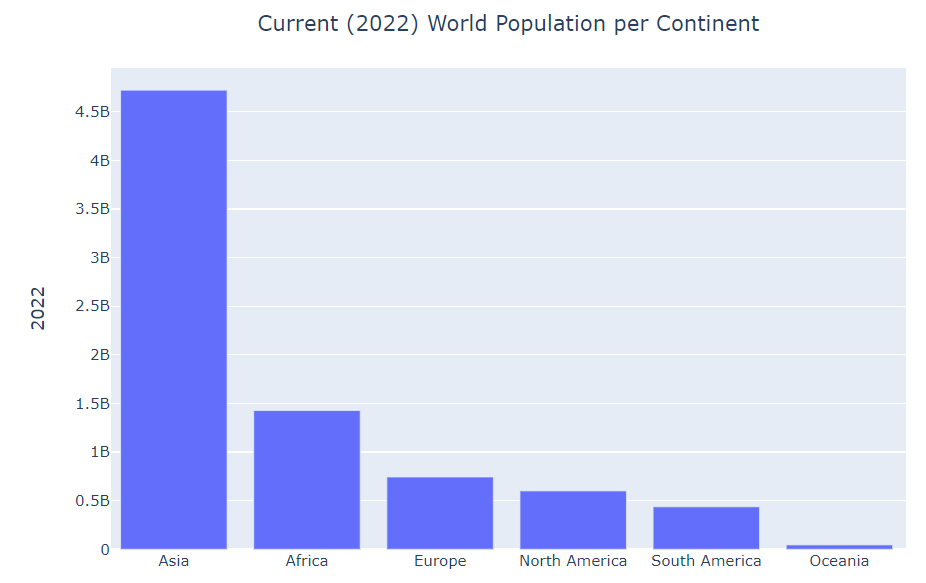


fig = px.bar(data\_frame= df.groupby('Continent' , as\_index= False).sum().sort\_values('2022', ascending=False), x= 'Continent' , y= '2022')

fig.update\_layout(title= 'Current (2022) World Population per Continent', title\_x= 0.5)



df\_country=df['Continent'].value\_counts()

fig=px.bar(x=df\_country.index,

y=df\_country.values,

color=df\_country.index,

color\_discrete\_sequence=px.colors.sequential.YlOrRd,

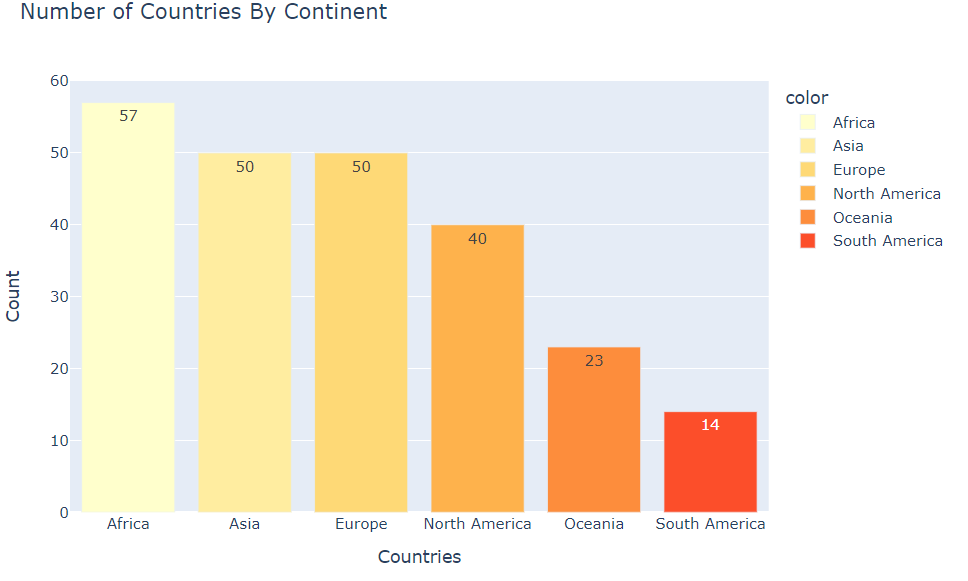
text=df\_country.values,

title= 'Number of Countries By Continent')

fig.update\_layout(xaxis\_title="Countries",

yaxis\_title="Count")

fig.show()

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fig, ax = plt.subplots(figsize=(16,8))

plt.plot(gwr\_top10['Country'], gwr\_top10['2020'], label='2020', marker='o')

plt.plot(gwr\_top10['Country'], gwr\_top10['1990'], label='1990', marker='d')

plt.xlabel('Country')

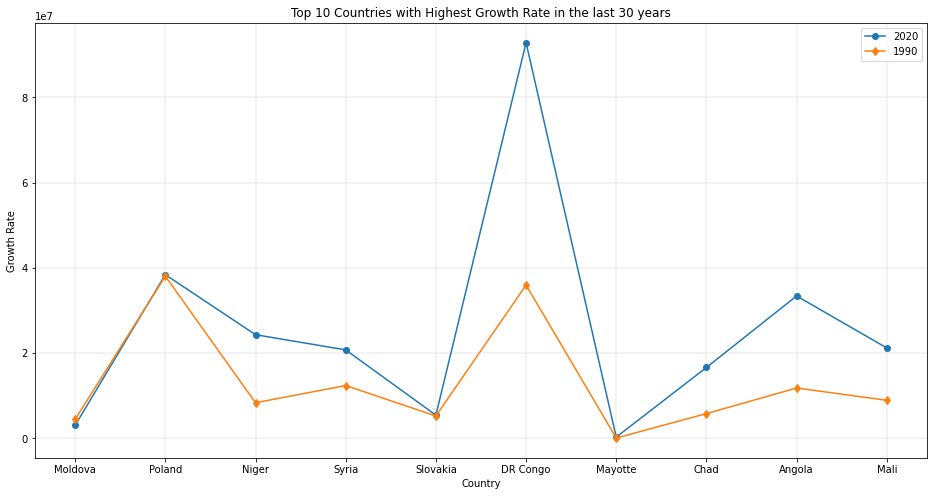
plt.ylabel('Growth Rate')

plt.grid(linewidth=0.3)

plt.title('Top 10 Countries with Highest Growth Rate in the last 30 years')

plt.legend()

plt.show()



*# plotting wolrd population difference decade-by-decade percent change 70s - 2010s*

fig, ax = plt.subplots(figsize=(16,8))

plt.plot(decade\_diff['Continent'], decade\_diff['70s'], label='70s', marker='o', color='green')

plt.plot(decade\_diff['Continent'], decade\_diff['80s'], label='80s', marker='d', color='red')

plt.plot(decade\_diff['Continent'], decade\_diff['90s'], label='90s', marker='o', color='blue')

plt.plot(decade\_diff['Continent'], decade\_diff['00s'], label='00s', marker='d', color='orange')

plt.plot(decade\_diff['Continent'], decade\_diff['10s'], label='10s', marker='d', color='skyblue')

plt.grid(linewidth=0.4)

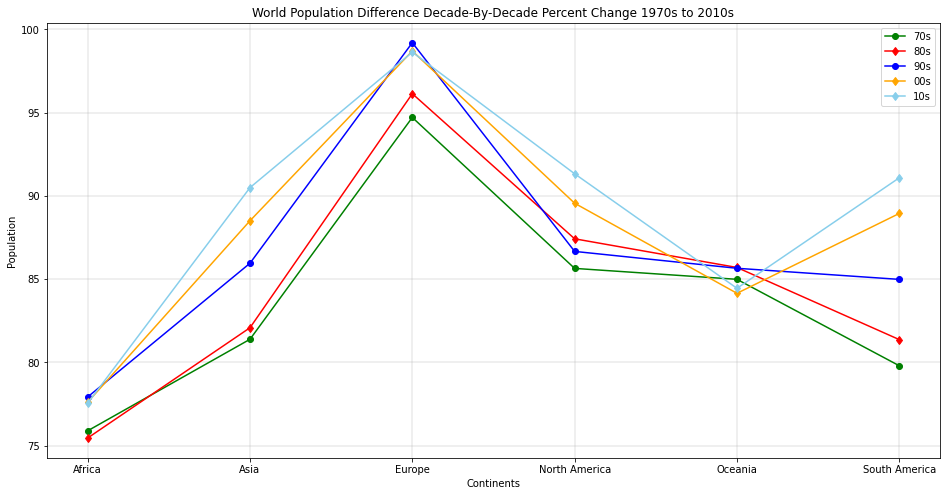
plt.title("World Population Difference Decade-By-Decade Percent Change 1970s to 2010s")

plt.xlabel('Continents')

plt.ylabel('Population')

plt.legend()

plt.show()

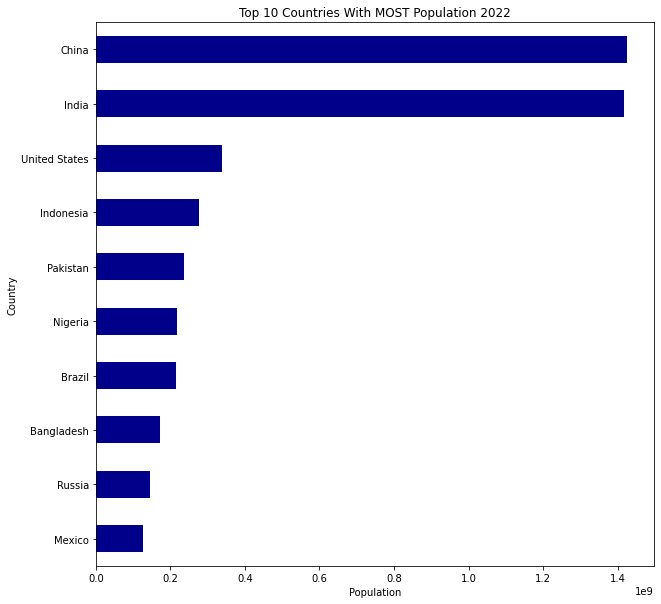


df\_top10.plot(kind='barh', figsize=(10, 10), color='darkblue')

plt.xlabel('Population')

plt.title('Top 10 Countries With MOST Population 2022')

plt.show()



*# top 10 countries with least population trend.*

inplace = True

df\_copy.sort\_values(by='2022', ascending=False, axis=0, inplace=True)

df\_bttm10 = df\_copy.tail(10)

df\_bttm10 = df\_bttm10[years].transpose()

df\_bttm10.index = df\_bttm10.index.map(int)

df\_bttm10.plot(kind='line', figsize=(14, 8))

plt.title('Trend of Top 10 Countries with LEAST population')

plt.ylabel('Populaton')

plt.xlabel('Years')

plt.show()

