

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]
```

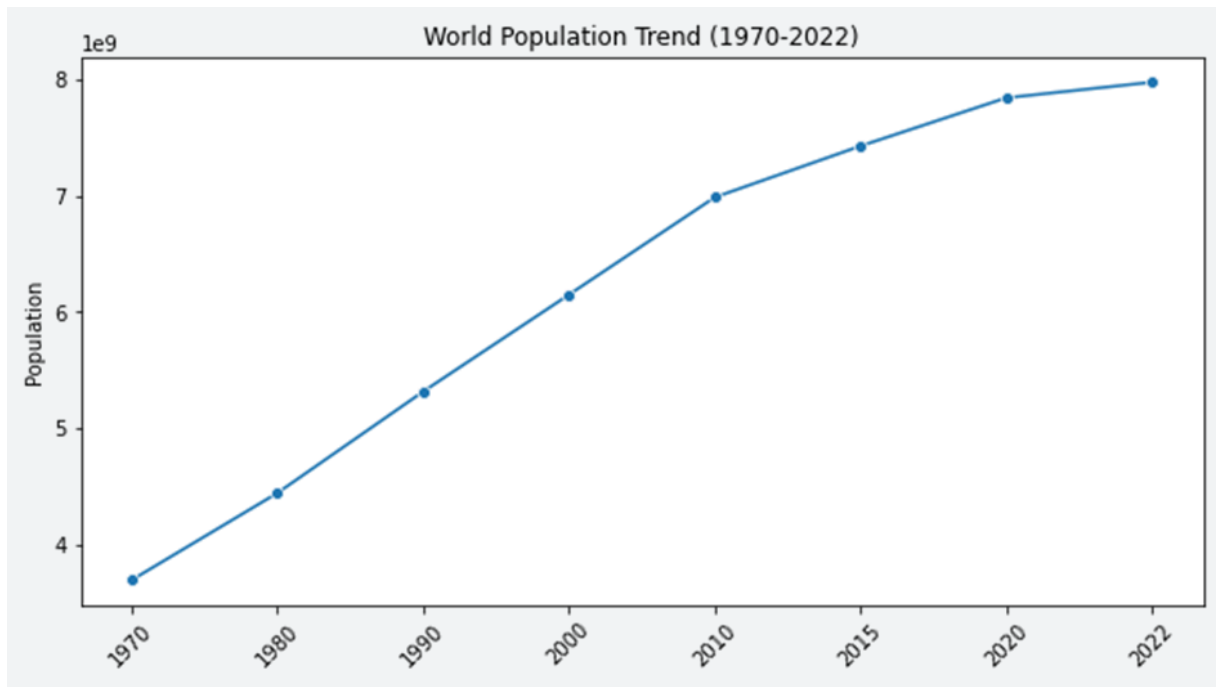
```
sns.lineplot(x=trend.index, y=trend.values, marker="o")
```

```
plt.xticks(rotation=45)
```

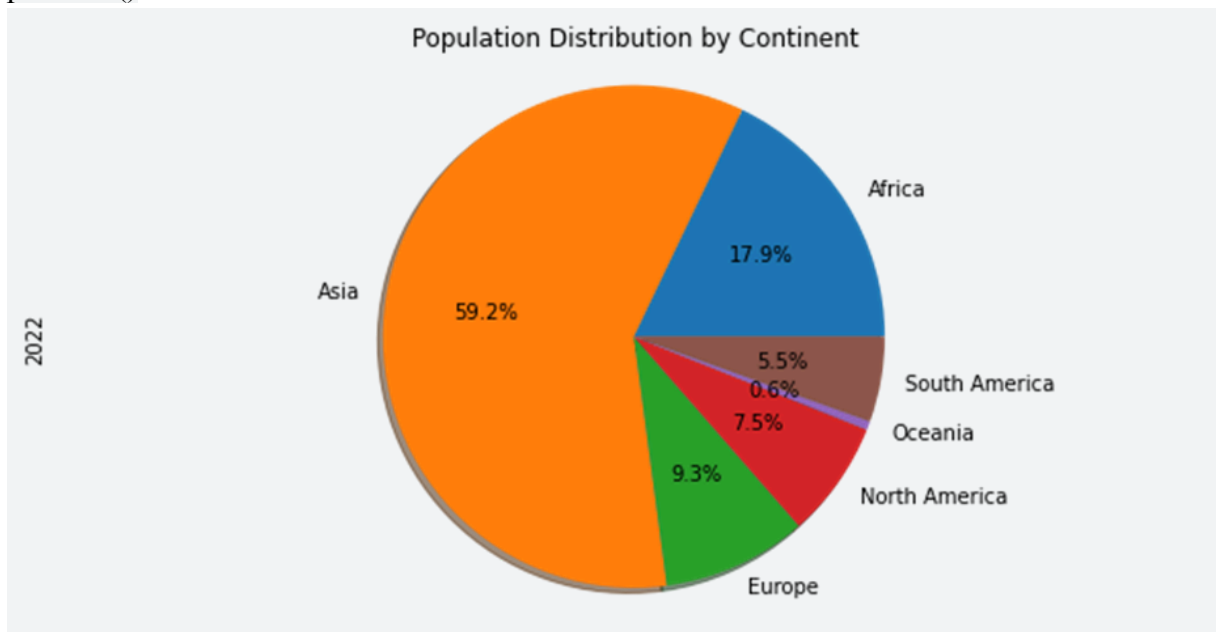
```
plt.ylabel("Population")
```

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

```
plt.show()
```

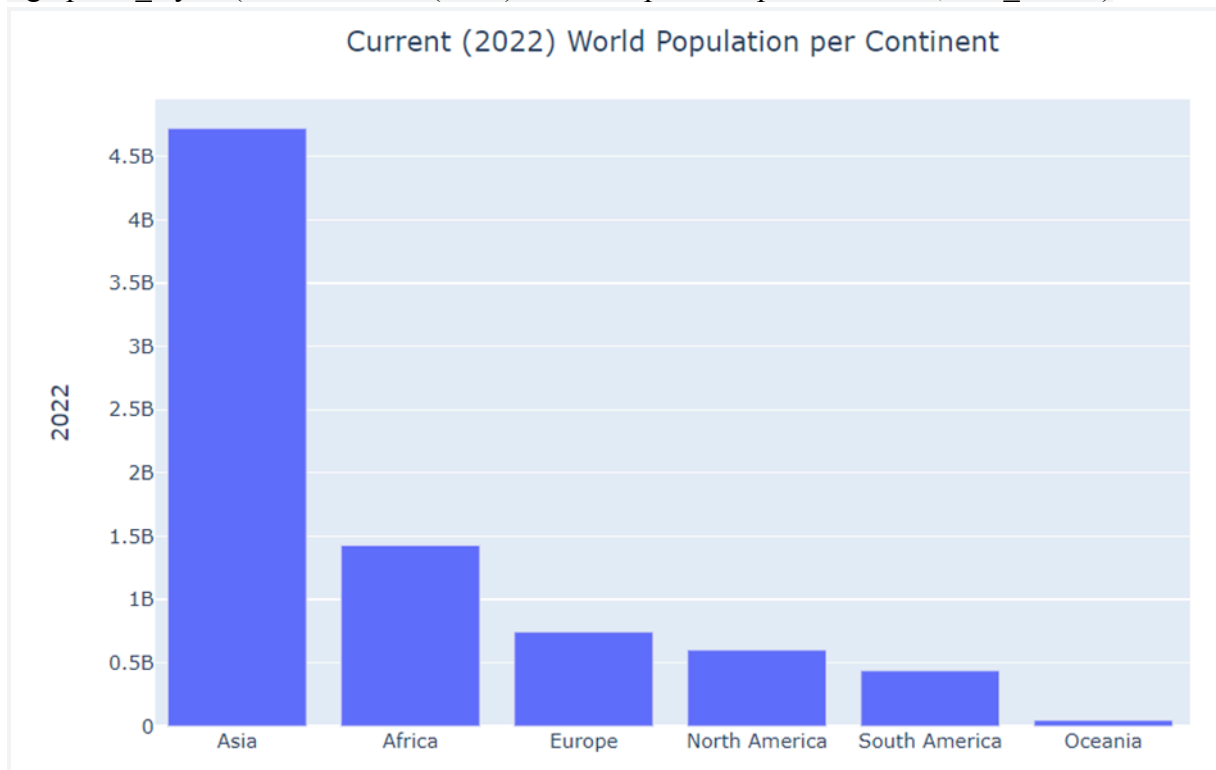


```
continent_df['2022'].plot(kind = 'pie', figsize=(10,5), shadow=True, autopct='%1.1f%%') #
autopct create %
plt.title(' Population Distribution by Continent')
plt.axis('equal')
plt.show()
```



```
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)
```

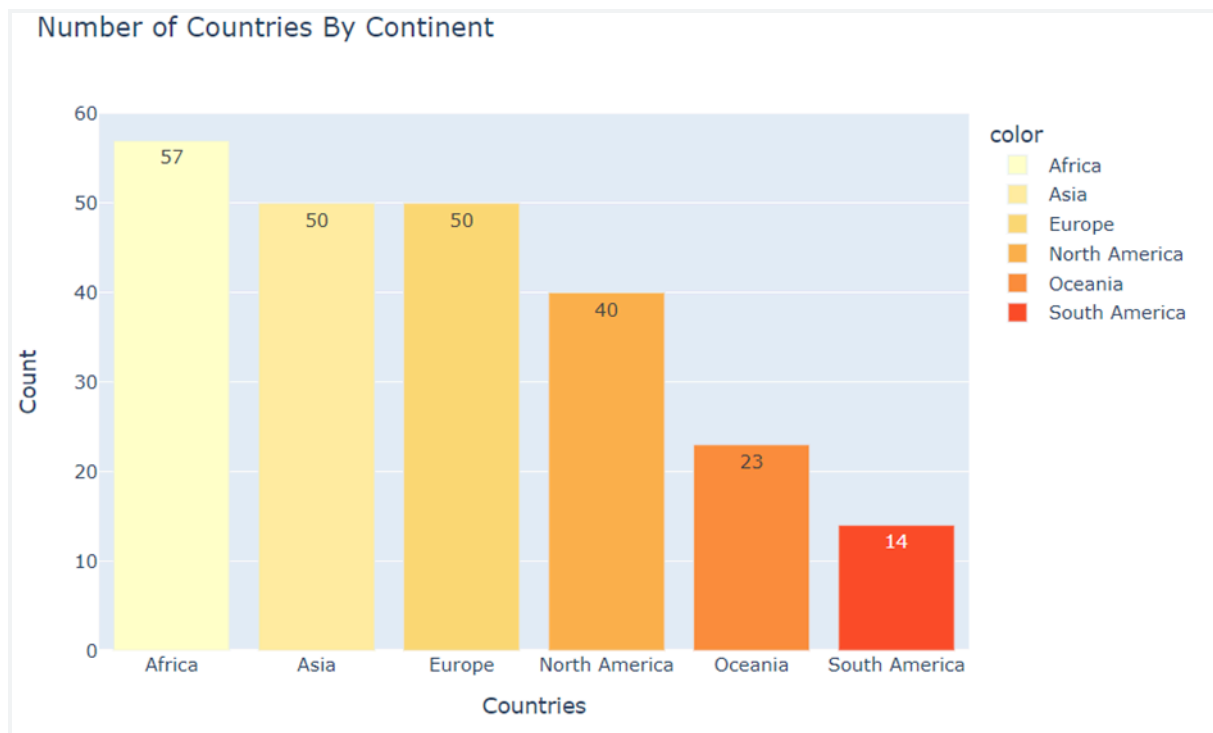


```
df_country=df['Continent'].value_counts()
```

```
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')
```

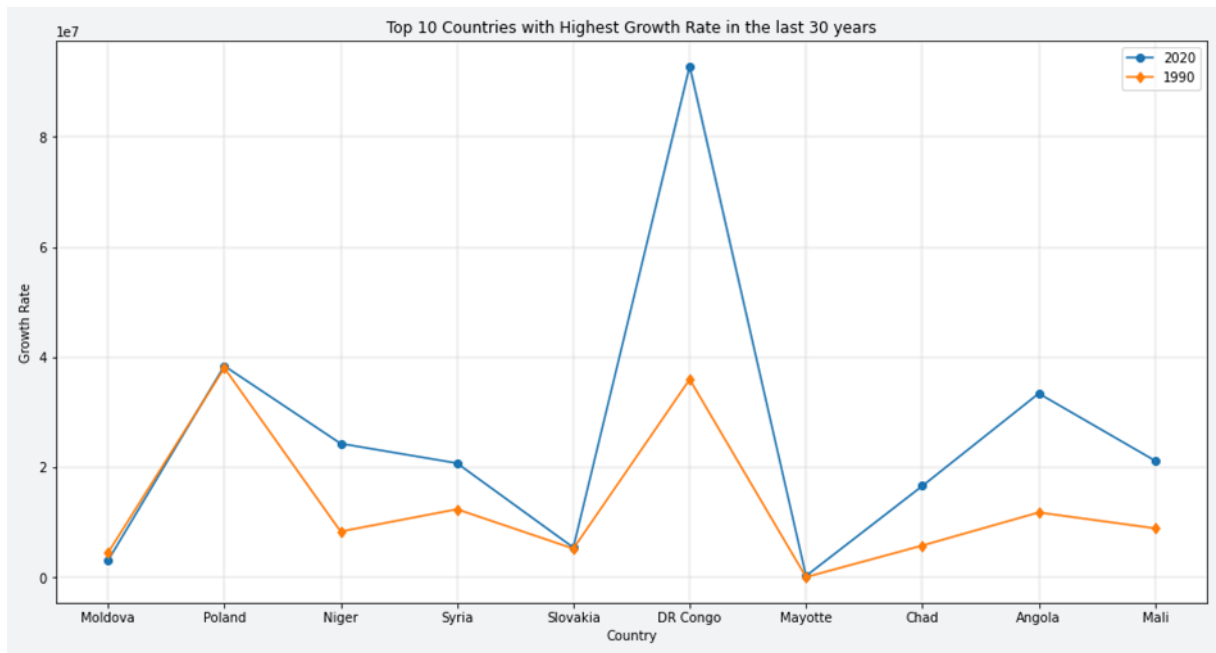
```
fig.update_layout(xaxis_title="Countries",
                  yaxis_title="Count")
```

```
fig.show()
```



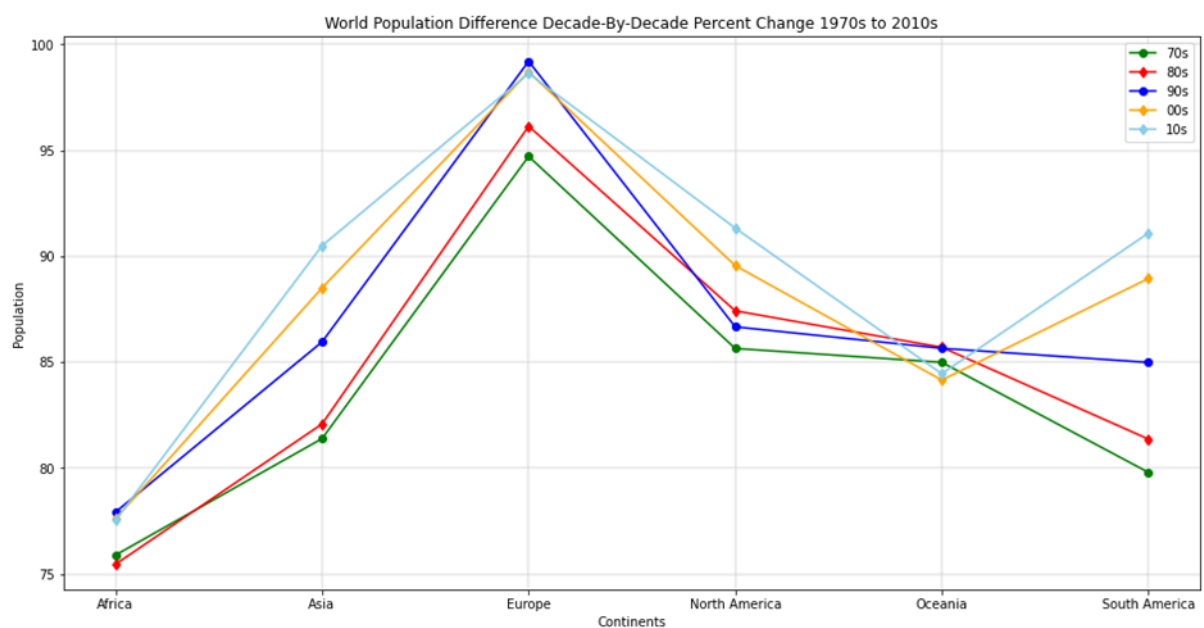
```
fig, ax = plt.subplots(figsize=(16,8))
plt.plot(gwr_top10['Country'], gwr_top10['2020'], label='2020', marker='o')
plt.plot(gwr_top10['Country'], gwr_top10['1990'], label='1990', marker='d')

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()
```



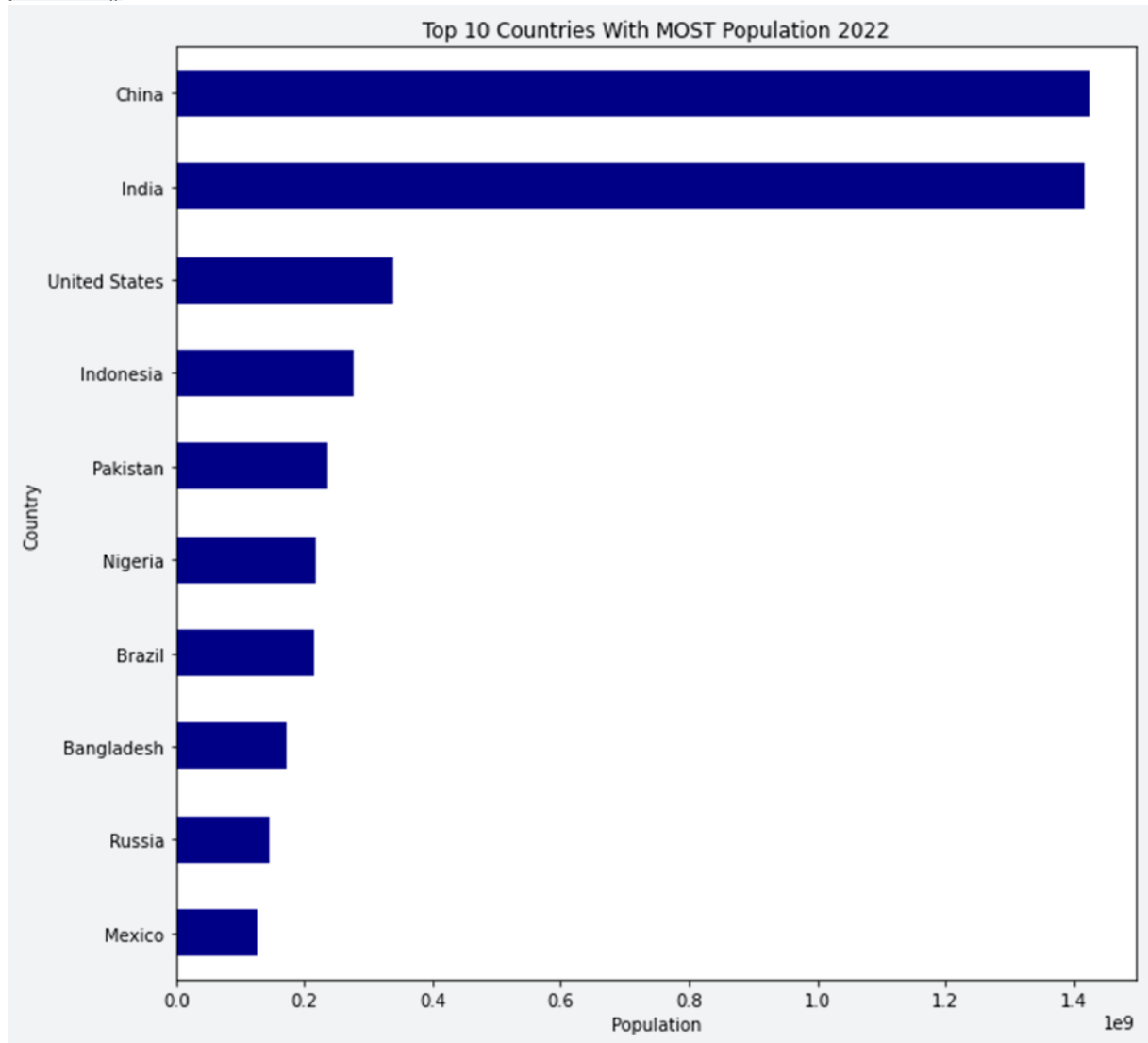
plotting world population difference decade-by-decade percent change 70s - 2010s

```
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()
```

