Assignment 5 qmd file

Aanya Vusirikala

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Assignment 5

```
import pandas as pd
df = pd.read_csv('wdi.csv')
df

# Summary statistics


key_statistics = df[['inflation_rate', 'country', 'exports_gdp_share', 'gdp_per_capita']]

summary = key_statistics.describe()
print(summary)
print(key_statistics.head())
```

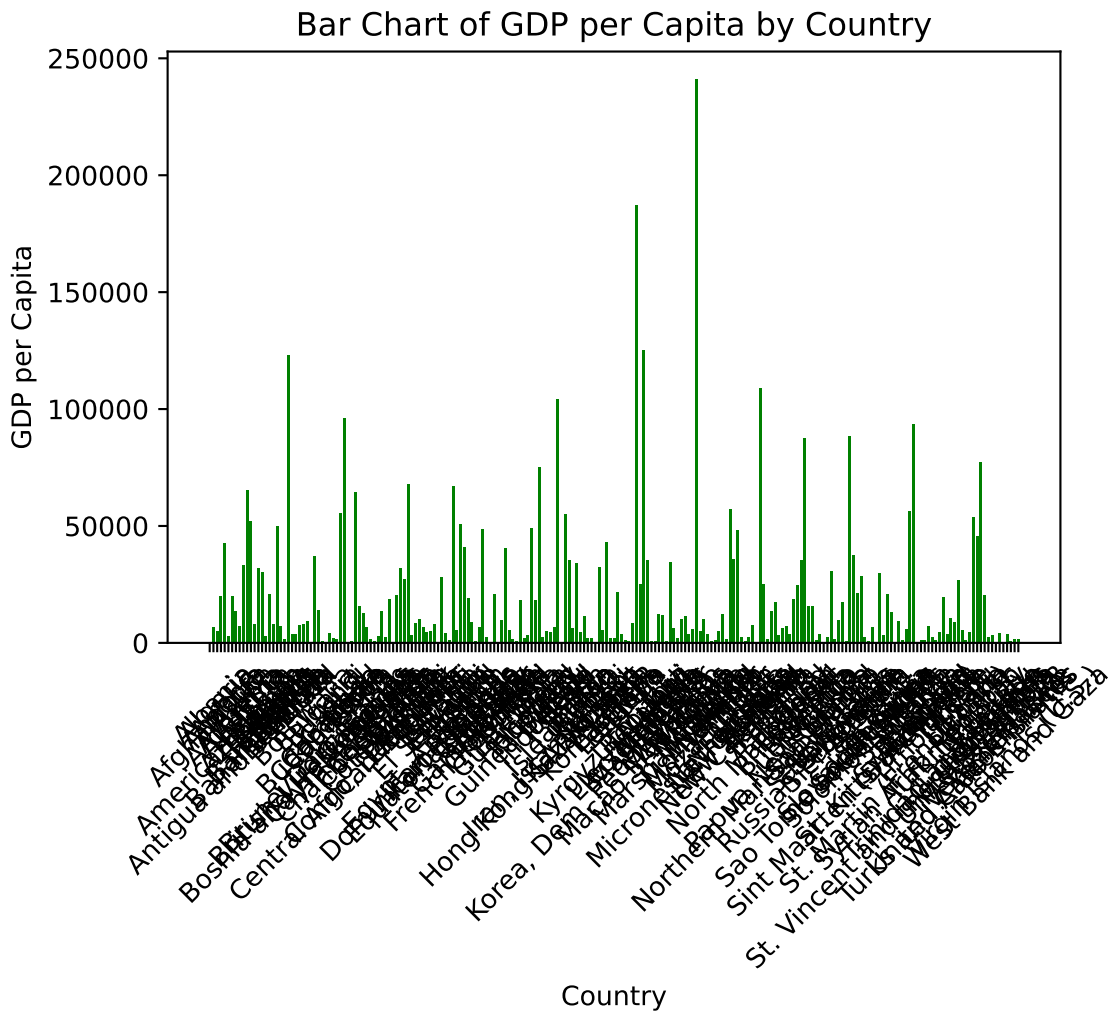
```
       inflation_rate  exports_gdp_share  gdp_per_capita
count      169.000000         169.000000      203.000000
mean        12.493936          46.170395    20345.707649
std         19.682433          34.001404    31308.942225
min         -6.687321           1.571162      259.025031
25%          5.518129          24.526642     2570.563284
50%          7.967574          40.221277     7587.588173
75%         11.665567          55.460067    25982.630050
max        171.205491         211.278206   240862.182448
   inflation_rate         country  exports_gdp_share  gdp_per_capita
0             NaN     Afghanistan          18.380042      352.603733
1        6.725203         Albania          37.395422     6810.114041
2        9.265516         Algeria          31.446856     5023.252932
3             NaN  American Samoa          46.957520    19673.390102
4             NaN         Andorra                NaN    42350.697069
```

##Summary of Findings I chose to look at the three indicators inflation rate, gdp_per_capita, and exports_gdp_share by country. The mean inflation rate is 12.5, the mean gdp per capita is 20,345 and then mean exports gdp share is 46.2. The countries with the 2 highest exports gdp share are Luxmeborg and Hong Kong. The countries with the 2 highest inflation rates are Lebanon and Sudan. And the countries with the higest gdp per capita are Monaco and Liechtenstein.

Data Source: World Development Indicators

Bar Chart: GDP per Capita by Country

```
import matplotlib.pyplot as plt
plt.figure(figsize=(6,4))
plt.bar(df['country'], df['gdp_per_capita'], color='green')
plt.xlabel("Country")
plt.ylabel("GDP per Capita")
plt.title("Bar Chart of GDP per Capita by Country")
plt.xticks(rotation=45)  # Tilt the x-axis labels
plt.show()
```



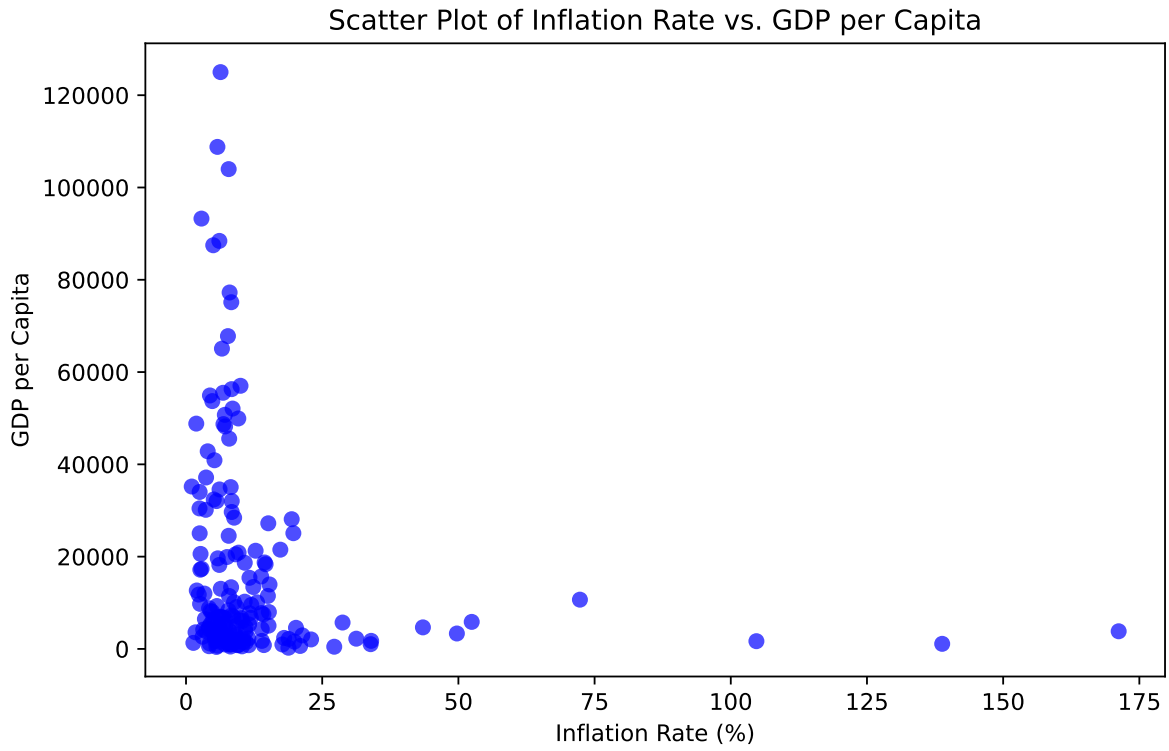
Scatter Plots: Inflation Rate vs. GDP per Capital, Inflation Rate vs export GDP share, GDP per capital vs export GDP share

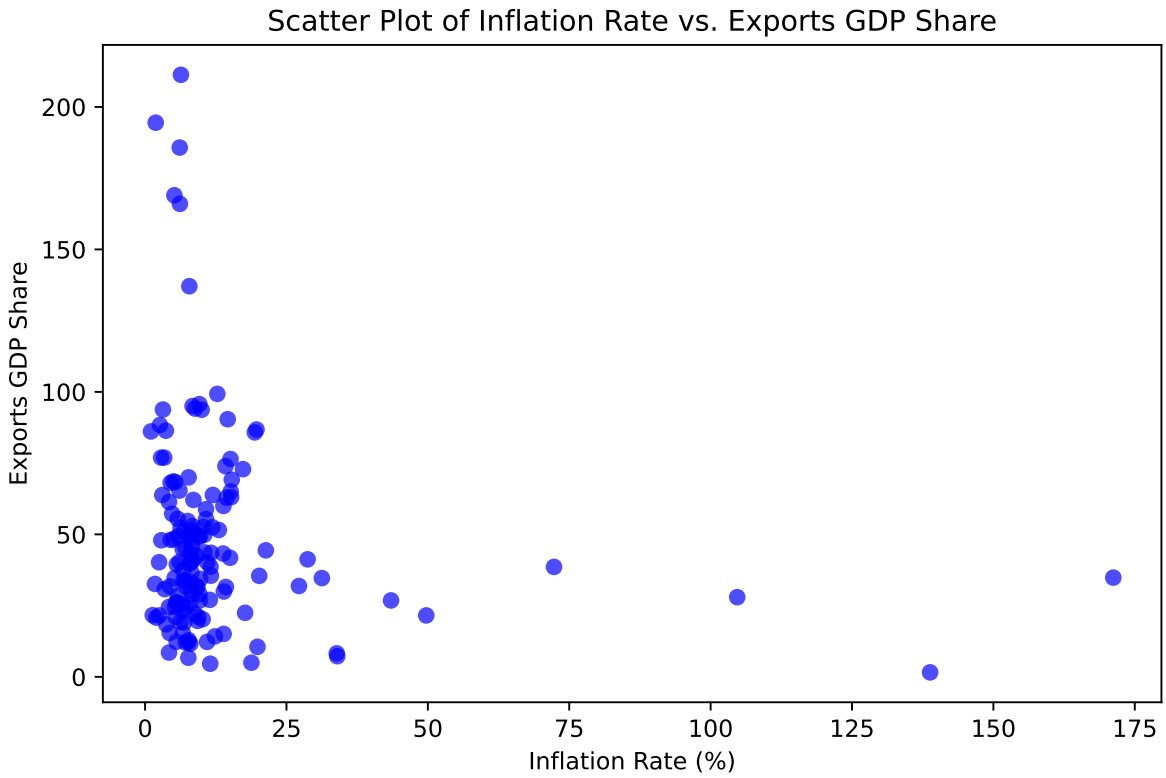
```
plt.figure(figsize=(8,5))
plt.scatter(df['inflation_rate'], df['gdp_per_capita'], color='blue', alpha=0.7)
plt.xlabel("Inflation Rate (%)")
plt.ylabel("GDP per Capita")
plt.title("Scatter Plot of Inflation Rate vs. GDP per Capita")
plt.show()
```

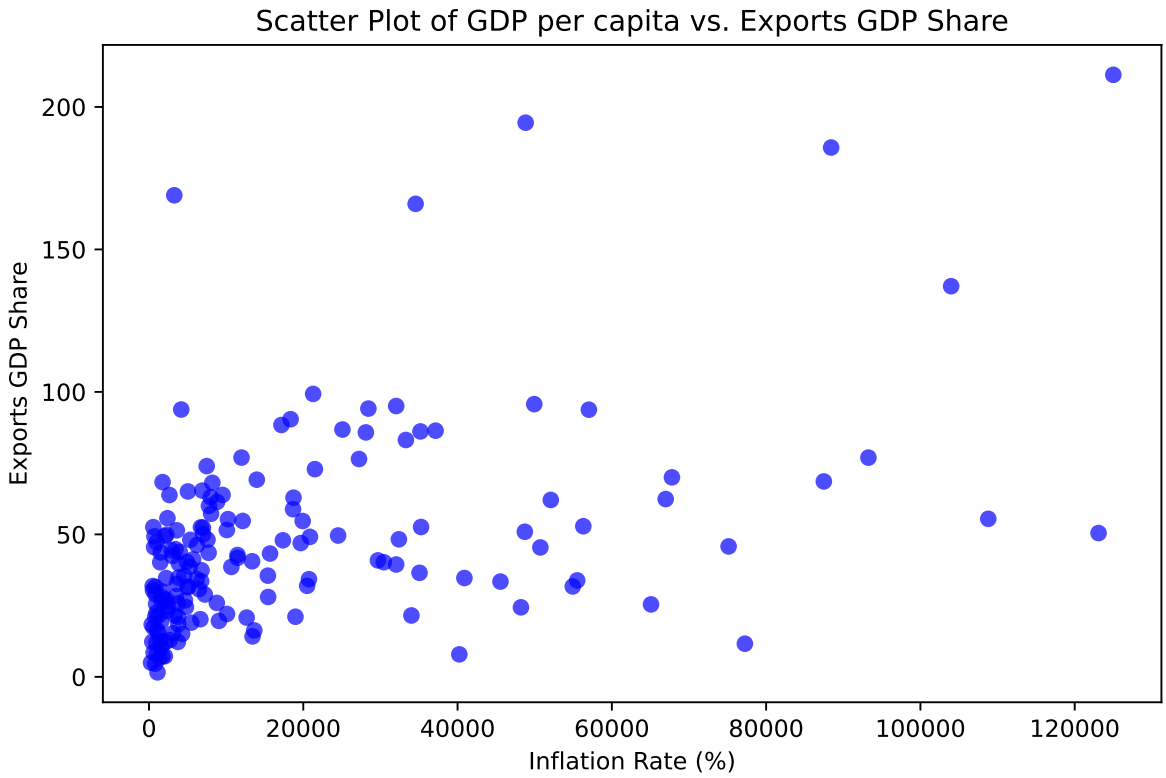
```
plt.figure(figsize=(8,5))
plt.scatter(df['inflation_rate'], df['exports_gdp_share'], color='blue', alpha=0.7)
plt.xlabel("Inflation Rate (%)")
plt.ylabel("Exports GDP Share")
plt.title("Scatter Plot of Inflation Rate vs. Exports GDP Share")
plt.show()



plt.figure(figsize=(8,5))
plt.scatter(df['gdp_per_capita'], df['exports_gdp_share'], color='blue', alpha=0.7)
plt.xlabel("Inflation Rate (%)")
plt.ylabel("Exports GDP Share")
plt.title("Scatter Plot of GDP per capita vs. Exports GDP Share")
plt.show()
```




Scatter Plot of Inflation Rate vs. Exports GDP Share
Exports GDP Share
Inflation Rate (%)
0
50
100
150
200
0
25
50
75
100
125
150
175



Summary Statistics Table

Statistic	Inflation Rate	Exports GDP Share	GDP Per Capita
Count	169	169	203
Mean	12.49	46.17	20345.71
Std Dev	19.68	34.00	31308.94
Min	-6.69	1.57	259.03
25%	5.52	24.53	2570.56
50% (Median)	7.97	40.22	7587.59
75%	11.67	55.46	25982.63
Max	171.21	211.28	240862.18

Relevant Sources

James, Gubbins, and Murray (2012) Dao et al. (2024)

Dao, Mai Chi, Pierre-Olivier Gourinchas, Daniel Leigh, and Prachi Mishra. 2024. "Understanding the International Rise and Fall of Inflation Since 2020." *Journal of Monetary Economics* 148: 103658. https://doi.org/https://doi.org/10.1016/j.jmoneco.2024.103658.

James, S. L., P. Gubbins, and C. J. Murray. 2012. "Developing a Comprehensive Time Series of GDP Per Capita for 210 Countries from 1950 to 2015." *Population Health Metrics* 10: 12. https://doi.org/10.1186/1478-7954-10-12.