Result of Analysis and Visualization of CO2 Emissions, GDP Per Capital, and Pollution around the globe

Data Analysis: Once I had collected my data and created the CSV file, I checked any correlation and relationships between the columns. Specifically, this would be the first step to making my visualizations; here, I found some interesting insights. There was very little correlation between pollution and CO2 emissions (using the pandas' correlation matrix function). Similarly to the previous correlation, CO2 and GDP per capita provided little correlation, which was surprising as one would expect a country with higher GDP to emit more CO2 emissions. Using the same function, I found the most correlation between GDP and pollution levels, which provided the reasoning for higher economic status in those countries, allowing cars and other machinery to emit more polluting factors. Using this analysis, I decided to visualize the correlation.

CSV Content:

	Country	CO2_emis_2016	Poll_2021	GDP_Per_Cap
0	China	29.18	32.6	16842.0
1	United States	14.02	10.3	59928.0
2	India	7.09	58.1	7166.0
3	Russia	4.65	12.3	25763.0
4	Japan	3.47	9.1	42067.0

Correlations:

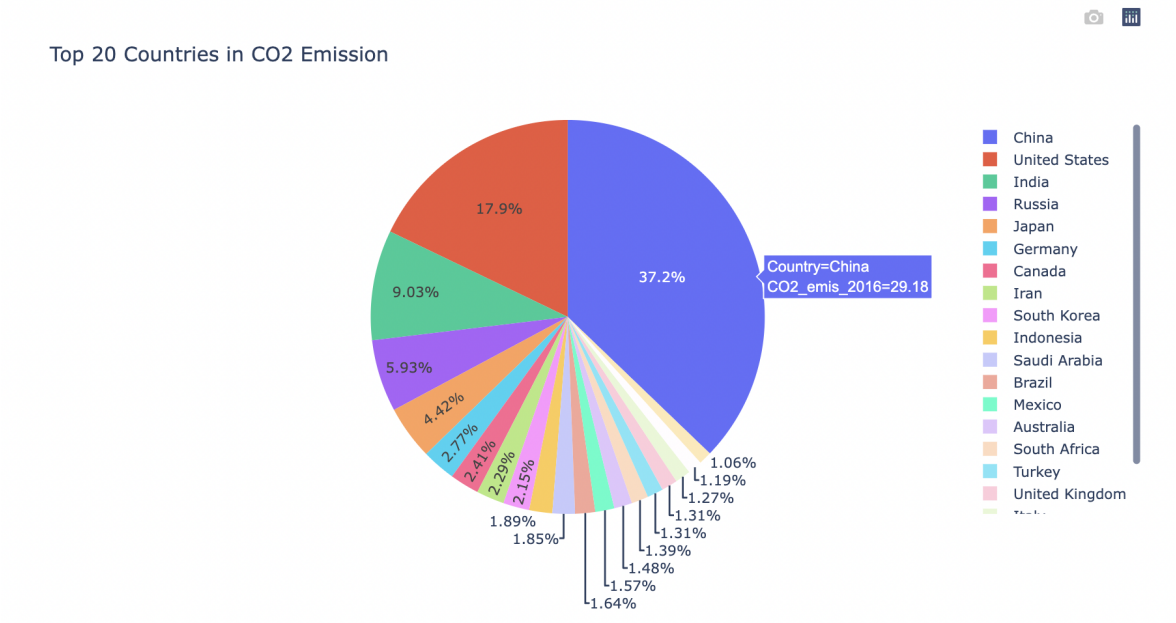
	CO2_emis_2016	Poll_2021
CO2_emis_2016	1.000000	0.053336
Poll_2021	0.053336	1.000000

	GDP_Per_Cap	Poll_2021
GDP_Per_Cap	1.000000	-0.322456
Poll_2021	-0.322456	1.000000

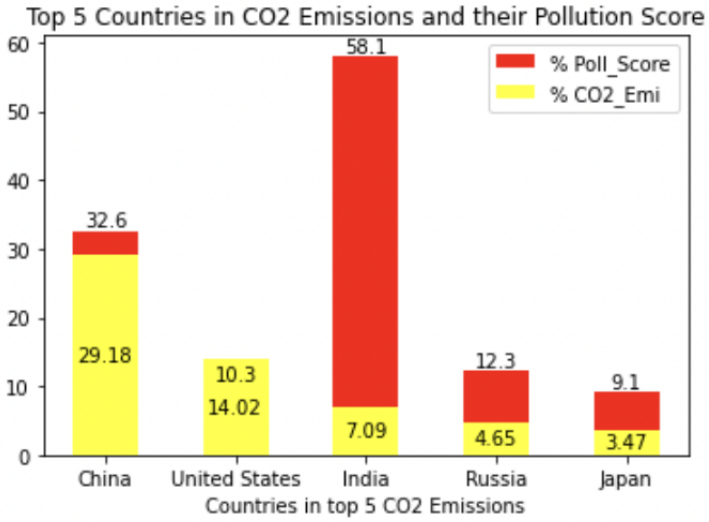
	CO2_emis_2016	GDP_Per_Cap
CO2_emis_2016	1.000000	0.040108
GDP_Per_Cap	0.040108	1.000000

Visualizations:

1. This pie chart analysis focuses on the leading CO2 Emissions and allows the reader to develop some initial background regarding the global leaders before further insight. This visual includes interactivity; by hovering over the pie chart, you can find the CO2 Emission of each respective country.



2. This stacked bar focuses on the effects of the countries that emit the highest CO2 on their respective pollution. The higher the pollution score, the worse the quality of air, etc., in that country. Here we find that besides India, other countries are doing relatively well concerning their pollution levels. This might cause one to assume that the effects of their CO2 emissions are felt by other countries around the globe that are in more dangerous areas. Most countries that lead in CO2 emissions are not affected by pollution.



3. This scatterplot looks at the relationship between REAL GDP PER CAPITA between all countries, explicitly comparing their pollution levels. The scatterplot does not give a distinct relationship but provides a slight correlation that higher GDP PER CAPITA might lead to lower levels of pollution concerning each country. Here we see the acute effects of economic prowess and pollution. As expected, GDP per capita does play a factor in the overall pollution level of the country.