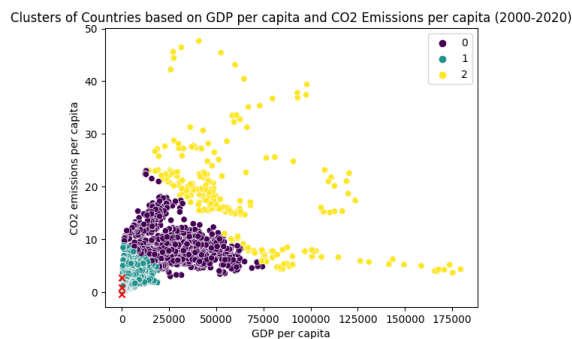


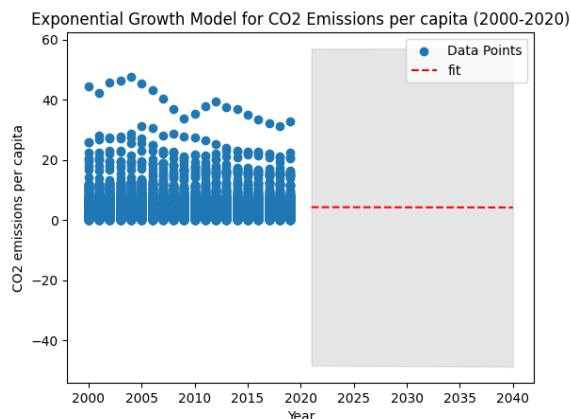
Name: Saqib Saddique

Title: "Exploring Climate Change Indicators: A Comparative Analysis of Clustering and Trend Modelling using World Bank Data"

- <https://github.com/saqibsaddique355/Clustering-Assignment.git>
- <https://data.worldbank.org/indicator/EN.ATM.CO2E.PC>
- <https://data.worldbank.org/indicator/NY.GDP.PCAP.CD>

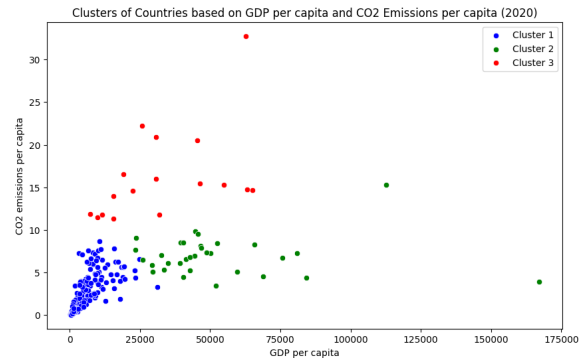


Graph is a scatter plot that shows the clustering of countries based on their GDP per capita and CO2 emissions per capita over the period from 2000 to 2020. The colors represent the clusters obtained using the KMeans algorithm



The second graph shows the trend of CO2 emissions per capita over time for all countries from 2000 to 2020. It includes a

fitted linear model and a confidence interval that shows the predicted range of CO2 emissions per capita for future years.



The third graph shows the latest data (2020) for GDP per capita and CO2 emissions per capita, and the countries are grouped into three clusters based on KMeans clustering. The graph provides insight into the distribution of countries by cluster and allows for a comparison of trends within each cluster.

Cluster 2:				
	Country	GDP_per_capita	CO2_emissions	
680	North America	63198.701318	14.753530	
1118	Australia	54941.434179	15.253618	
1198	Bahrain	25869.112913	22.259581	
1438	Brunei Darussalam	30748.737487	15.957155	
1578	Canada	46328.671841	15.430613	
2670	Kazakhstan	9812.595808	11.456938	
2730	Korea, Rep.	31902.416905	11.799325	
2750	Kuwait	30667.348220	20.861949	

Cluster 1:				
	Country	GDP_per_capita	CO2_emissions	
0	Africa Eastern and Southern	1512.270553	0.903764	
20	Africa Western and Central	1749.303317	0.485884	
40	Arab World	6384.066321	4.272608	
60	Caribbean small states	10429.332040	5.102301	
80	Central Europe and the Baltics	16358.474150	6.265422	

Cluster 3:				
	Country	GDP_per_capita	CO2_emissions	
180	Euro area	39182.548340	6.111384	
200	Europe & Central Asia	24870.261987	6.574077	
260	European Union	35079.469150	6.091126	
320	High income	44723.928945	9.811360	
700	OECD members	39531.660346	8.518929	
760	Post-demographic dividend	45700.938133	9.523300	
1018	Andorra	41327.502031	6.549389	
1138	Austria	50070.403348	7.293984	

