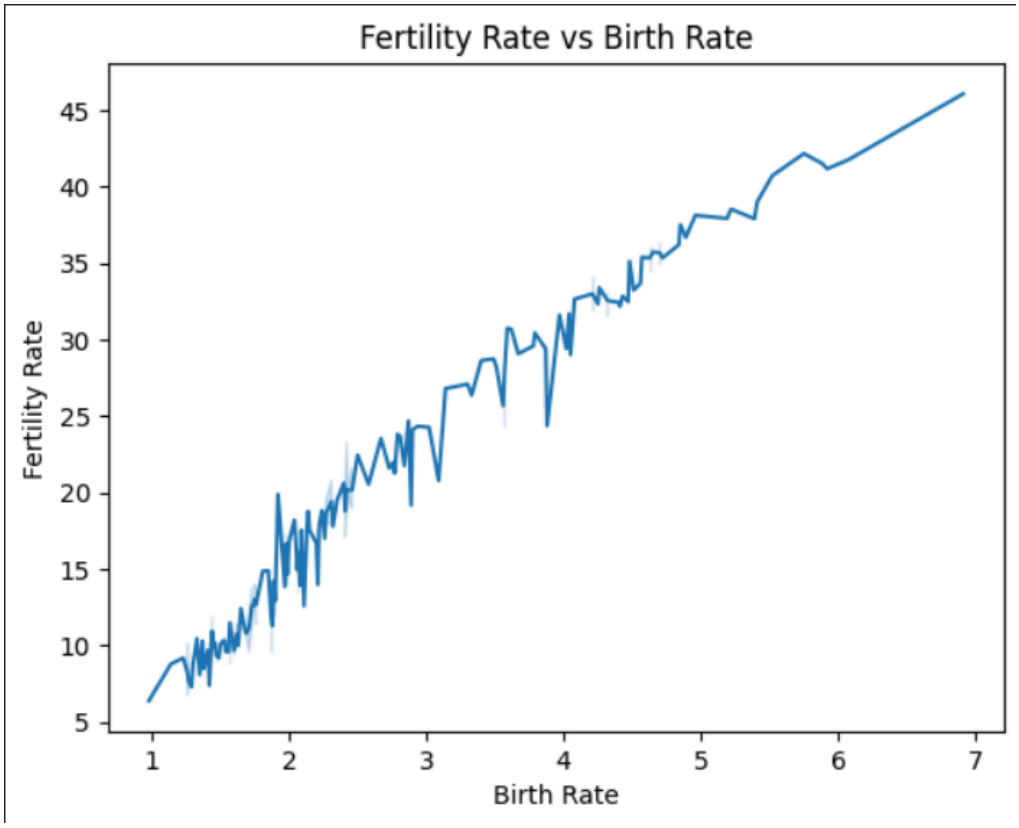
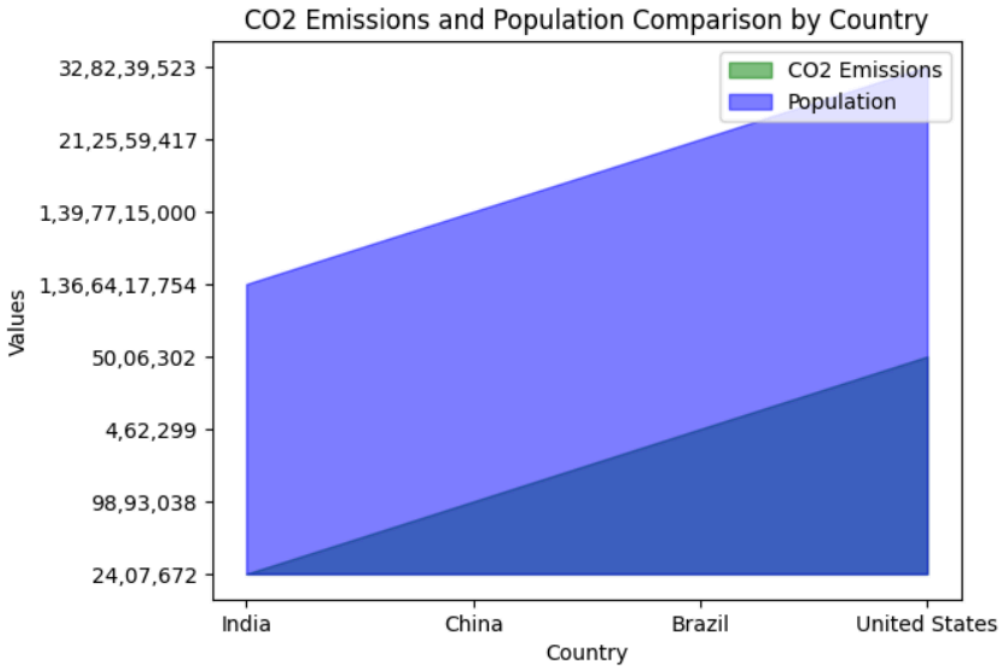
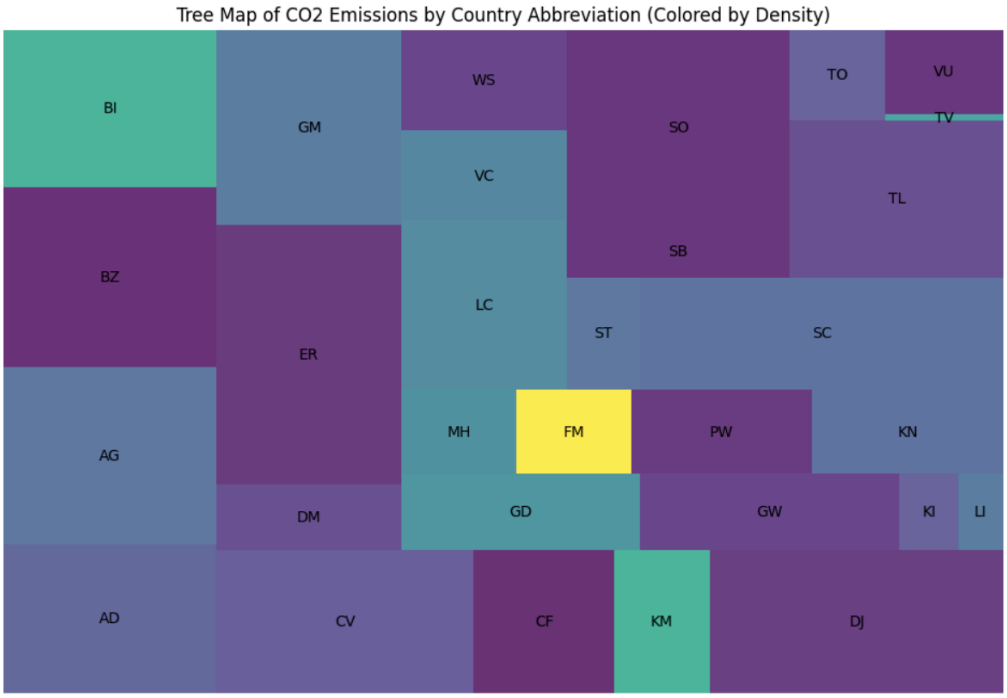
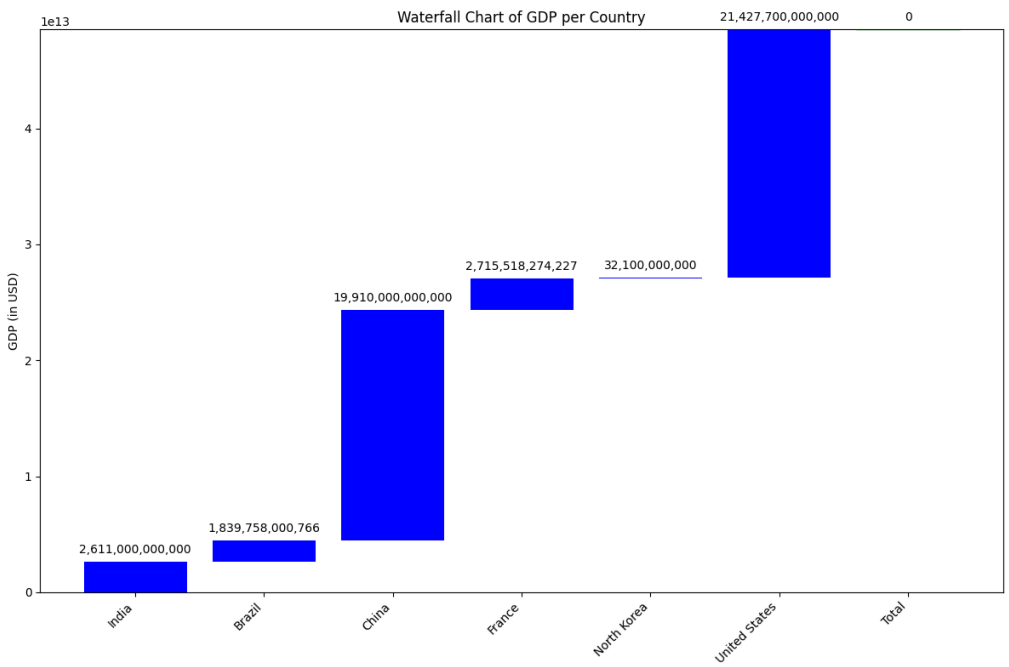
Name:	Deepraj Sujit Kadam
UID:	2021600029
Experiment No:	02
Batch:	B
Aim:	To create advanced plots to visualize and understand the dataset.
Dataset link:	https://www.kaggle.com/datasets/nelgiriyewithana/countries-of-the-world-2023
Results / Outputs:	 Line Chart:This chart helps identify patterns and correlations between Fertility Rate and Birth Rate, providing insights into how changes in one rate might influence the other.



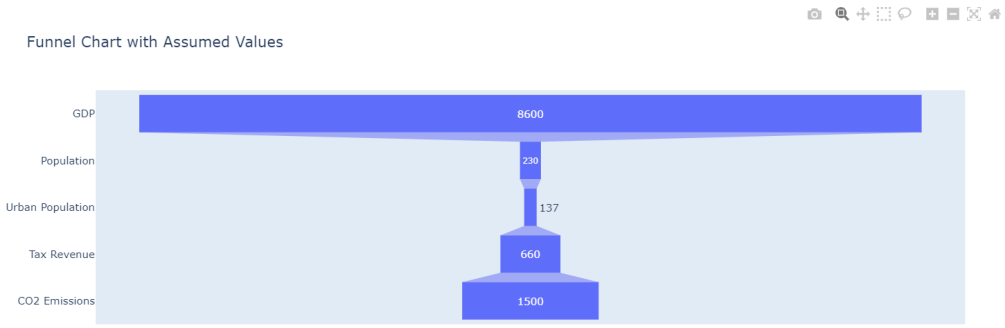
Area Chart: This chart provides a visual comparison of the two metrics across the selected countries, making it easier to see how CO2 emissions and population sizes compare and contrast.



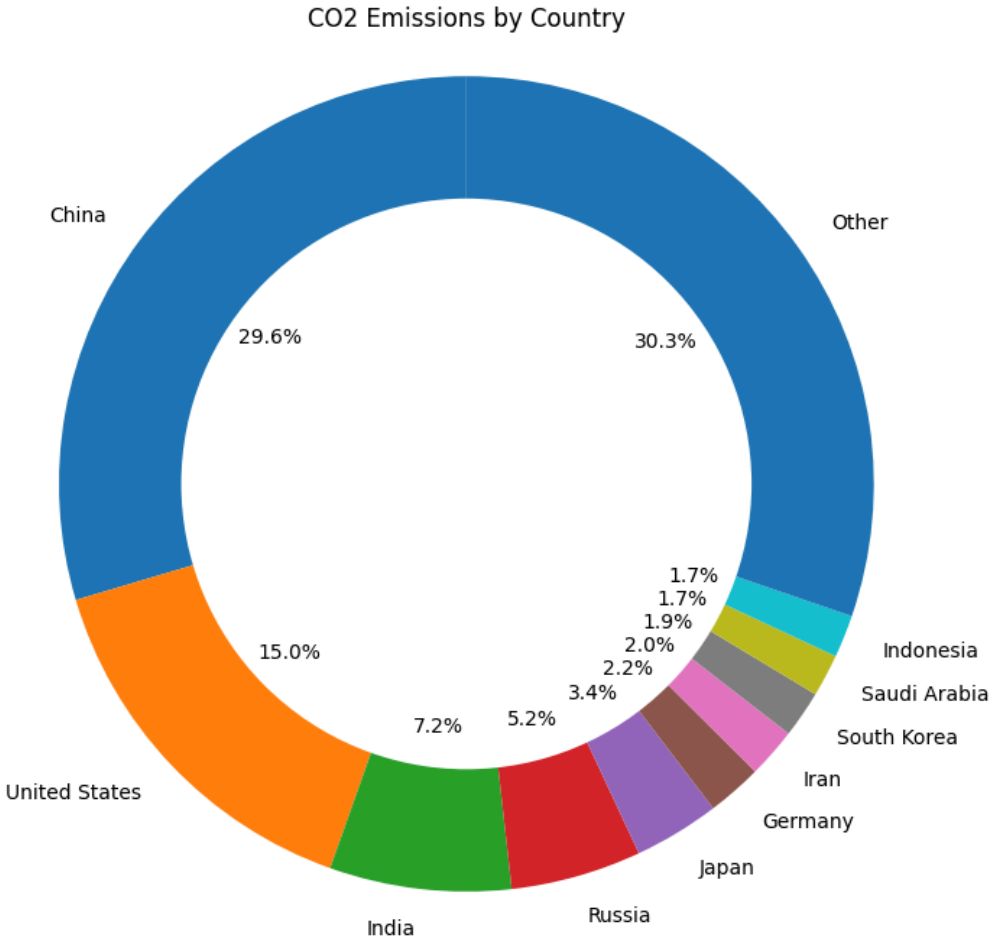
Tree Map: This chart allows for a quick visual comparison of CO2 Emissions among countries and illustrates how these emissions relate to population density.



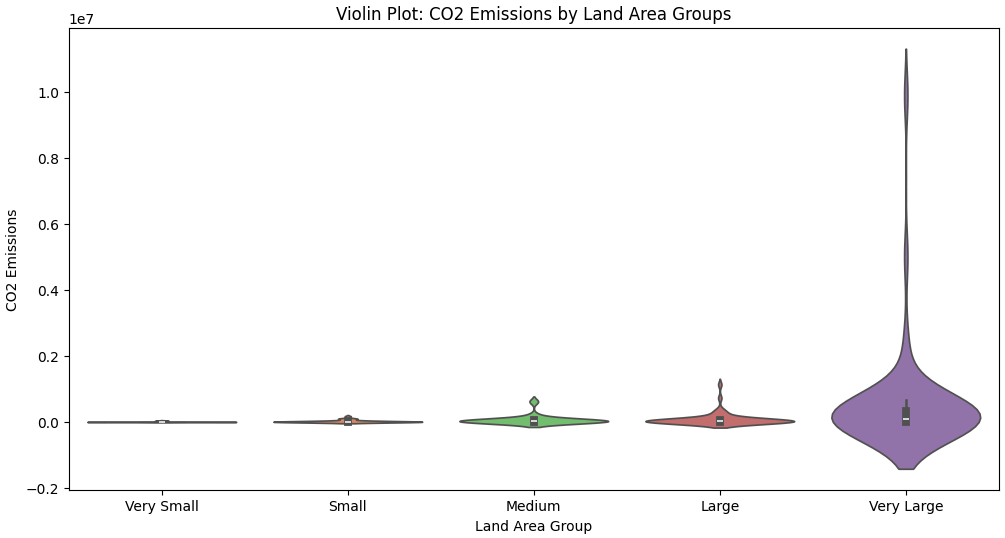
Waterfall Chart: This chart visualizes how the GDP of each country contributes to the overall total, allowing for an understanding of the impact each country has on the cumulative GDP.



Funnel Chart:This chart visualizes the relative size of different metrics and helps compare how each metric contributes. (I have used some hardcoded values to achieve the desired output, as the data from the dataset did not produce the expected results)



Donut Chart:This chart provides a clear view of how CO2 Emissions are distributed among the top countries.



Violin Plot:This plot helps visualize the spread and distribution of CO2 Emissions within each land area group.

Conclusion	In this experiment, we explored various data visualization techniques using line charts, area charts, tree maps, waterfall charts, donut charts, and violin

	plots to analyze the socio-economic dataset. ● **Line Chart:** We examined the relationship between Fertility Rate and Birth Rate across different countries, revealing potential correlations and trends between these two demographic indicators. ● **Area Chart:** The area chart compared CO2 Emissions and Population levels among selected countries, highlighting key differences and contributions of each metric. ● **Tree Map:** The tree map visualized CO2 Emissions by country, with color-coding indicating population density. This provided a clear picture of how emissions are distributed and related to density. ● **Waterfall Chart:** The waterfall chart illustrated how each country's GDP contributes to the total GDP, showing incremental impacts and highlighting major contributors. ● **Donut Chart:** The donut chart displayed the proportion of CO2 Emissions among top countries versus an aggregated "Other" category, emphasizing the distribution and significance of major contributors. ● **Violin Plot:** The violin plot revealed how CO2 Emissions vary across different land area groups, providing a detailed view of emissions distribution and its relation to land size.