Advance Data Visualization

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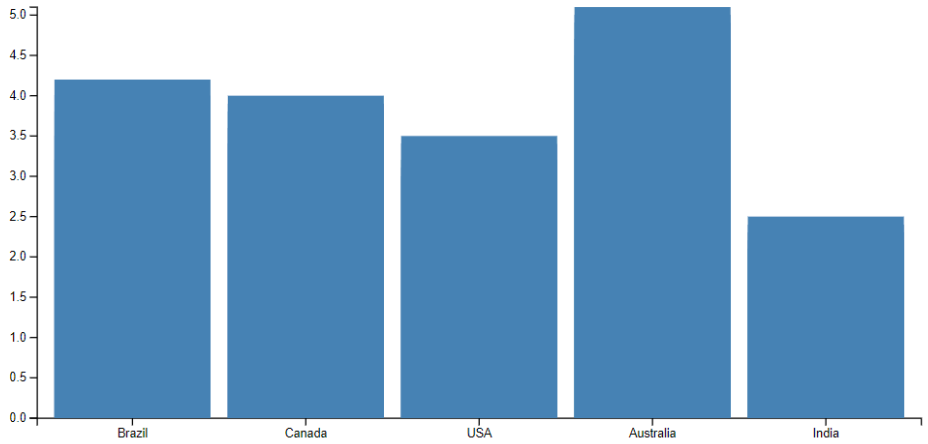
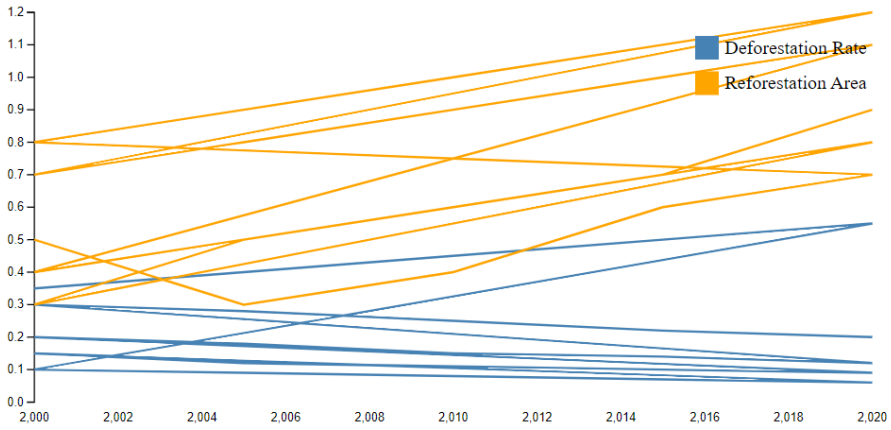
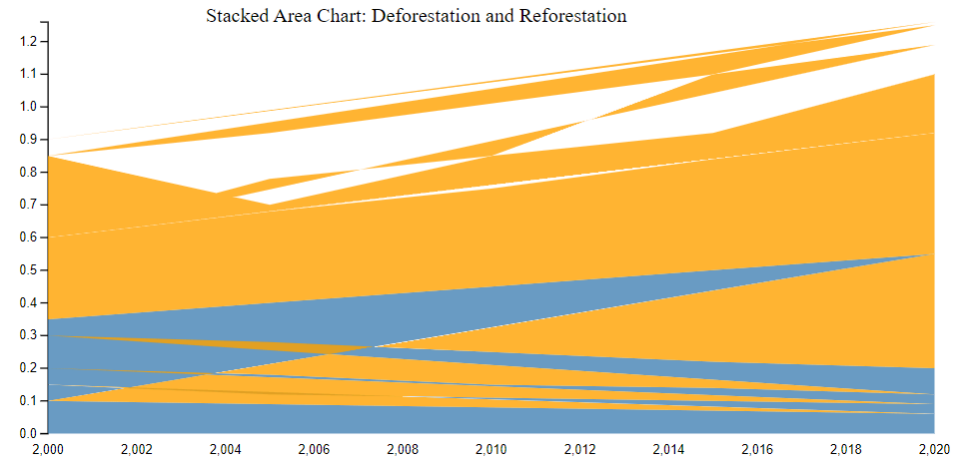
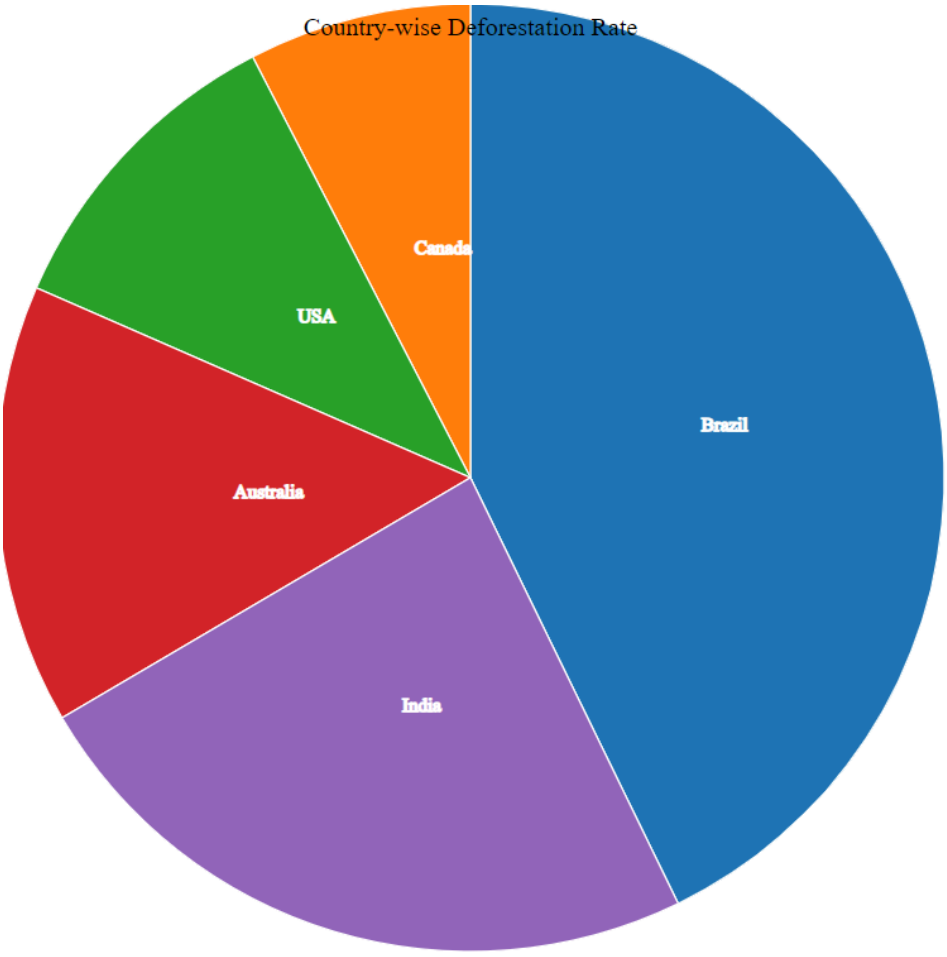
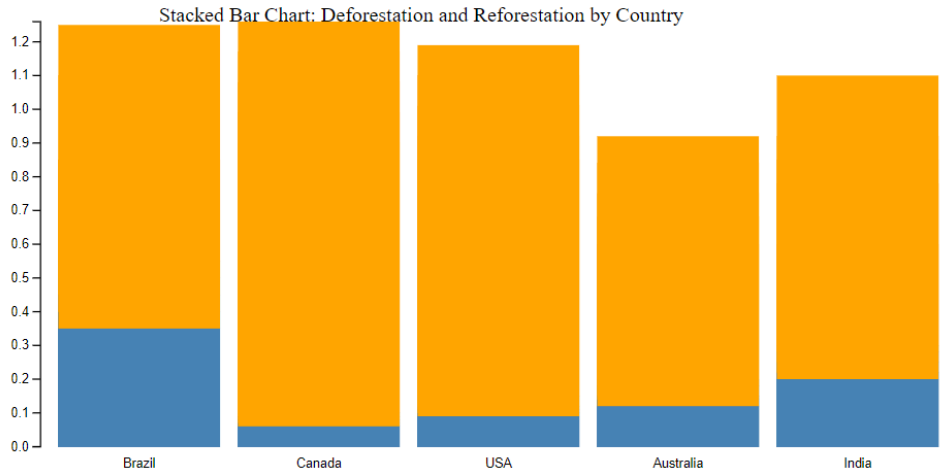
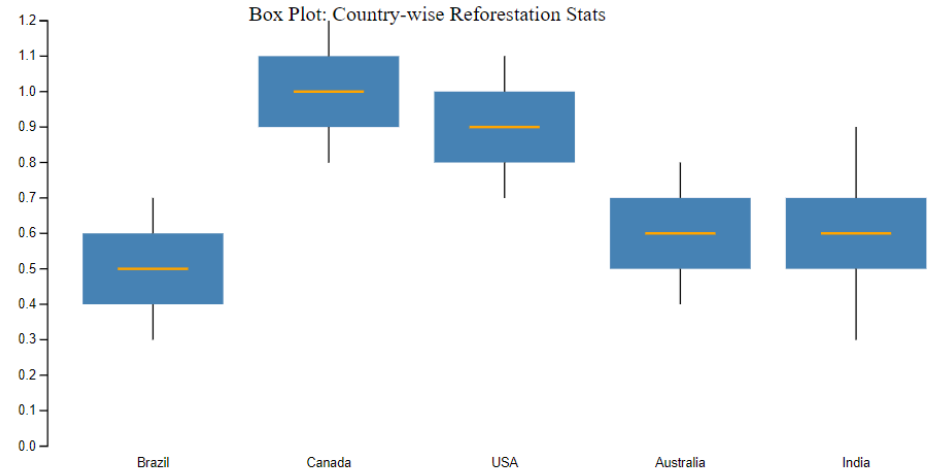
Branch / Batch:	CSE(AIML)
Experiment No:	8
Aim:	Experiment to design interactive dashboards and create visual storytelling using D3.js on a dataset related to Environment/Forest cover, covering basic and advanced charts
Result / Output	**Bar Chart: Forest Cover by Country**  Bar chart showing forest cover by country. Helpful in understanding the relation between the geography, pollution, industrialization effect and in general focus on conservation of forest area. --- **Line Chart representing Forestation and Deforestation**  A line chart representing Deforestation rate and the reforestation area. Useful in understanding the measures being taken against deforestation and its impact. ---



Stacked Area chart representing Deforestation and Reforestation rates. A more expressive visualization than the above line chart.



Pie chart showing the country wise deforestation proportions. Helpful to visualize the amount of deforestation occurring in different countries, may also be used to relate other factors like pollution, air quality etc.

	 Stacked Bar chart representing country wise deforestation (orange) and reforestation (blue) plots. Useful to understand the amount of effort being put in each country against deforestation ---  Box plot for country wise reforestation areas. Useful to visualize and analyze the reforestation measures being carried out in different countries as a visual of the median and quartile values across different regions.
Conclusion	The experiment successfully demonstrated the power of interactive data visualization in conveying complex environmental statistics, specifically focusing on reforestation and deforestation trends across various countries. Utilizing D3.js, we created multiple visual representations, including stacked bar charts and box plots, to effectively illustrate the relationships and distributions within the dataset. Through these visualizations, we highlighted significant differences in reforestation efforts and challenges faced by each country. The insights garnered from this analysis not only emphasize the importance of ongoing monitoring of forest cover changes but also underscore the potential for data-driven decision-making in environmental conservation strategies. Overall, the experiment showcased how engaging visual storytelling can enhance understanding and foster dialogue around critical environmental issues.