LAB ASSIGNMENT-1

Title: Data Visualization Tools

> ➢ Analyze and compare various data visualization tools for effective graphical representation and interpretation of datasets.

Objective: The objective of this lab assignment is to explore and analyze various data visualization tools used for representing and understanding complex datasets. Through this assignment, you will gain insights into the strengths, weaknesses, and practical applications of different visualization tools.

Tasks:

1) Introduction to Data Visualization
2) Selecting Data Visualization Tools: Research and select at least four different data visualization tools. Examples include:
   a. Matplotlib (Python)
   b. Seaborn (Python)
   c. Tableau
   d. Power BI
   e. ggplot2 (R)
   f. Plotly (Python, R)
3) Provide Brief overview of the tool's capabilities and features.
4) Provide at least one practical use case scenario where the tool would be particularly useful.
5) Discuss the strengths and weaknesses of each tool.
6) Include visual examples (screenshots or code snippets) of data visualizations created using each tool.
7) Based on your analysis, discuss which tools are better suited for different scenarios.

Optional:

> ➢ Interactive dashboards using Plotly Dash or Streamlit.

> ➢ Apply EDA (Exploratory Data Analysis) using Pandas-Profiling or Sweetviz.

Submission:
Prepare a PDF file that covers all the tasks mentioned above. Include code snippets, visualizations, and tables to support your analysis. Clearly explain the steps you took, the results you obtained, and your interpretation of the findings.