# Training  Day 7 Report:

**Date:** *3 July,2025(Thursday)*

**Location:***PG Block HPC Lab*

**Guided by:***Training Instructors (Classroom-Based)*

## Main Objective:

To learn about the basics of data visualization and exploratory data analysis (EDA) using Python's matplotlib and seaborn libraries, and to practice real-time data plotting with the tips dataset.

## Summary of the Day's Work

Today's session focused on understanding data visualization tools in Python, using both matplotlib and seaborn for better and more informative graphs, and practicing EDA skills needed for data science and ML projects.

## Topics/Areas Covered:

- Basics of Data Visualization
- Matplotlib: Line, Bar, Scatter, Histogram, Pie Chart
- Seaborn: Line Plot, Boxplot, HeatmapTips Dataset (for practice)
- Real-Time Plotting with plt.ion()
- EDA (Exploratory Data Analysis) Introduction

## Concepts Learned:

- matplotlib.pyplot is used for simple graphs.
- Seaborn is built on matplotlib with improved styling.
- Used sns.boxplot() and sns.heatmap() on the tips dataset.

- plt.ion() helps make live/real-time plots.
- EDA helps understand data before using ML

## Tools / Platforms Used

- Kaggle Kernel
- Python 3.x
- Libraries: matplotlib, seaborn
- Dataset: tips

## Tasks Performed:

- Plotted basic graphs using matplotlib.
- Used seaborn for boxplot and heatmap.
- Visualized real-time data using plt.ion() and random values.
- Practiced on the tips dataset.
- Read EDA intro to prepare for next topic

## Observations / Reflections

Today's session was creative. I enjoyed learning how visuals can tell the story of data. Seaborn felt more user-friendly than matplotlib. I'm now curious about exploring EDA in detail.

## Key Takeaways

- Developed confidence in using Python visualization tools.
- Understood how to interpret and explore real-world datasets.
- Gained hands-on experience with live plot creation.