LAB Assignment No. 1

Lab Assignment – Dataset Creation & Analysis

Objective

To learn how to create and upload a dataset in Python, perform basic statistical analysis, and visualize data using graphs.

Tasks

🔷 **Q1: Create a Dataset Manually**

- Create a dataset of at least **10 students** with the following columns:
    - Student_ID,
    - Name,
    - Age,
    - Marks_Math,
    - Marks_Science.
- Store the dataset in a **CSV file** named students.csv.

Q2: Upload Dataset in Python

- Use **Pandas** to load the dataset.

Q3: Observe Dataset Information

Run the following commands and explain the output:

1. data.info() → Dataset structure
2. data.describe() → Summary statistics (mean, std, min, max, etc.)
3. data['Marks_Math'].mean() → Mean of Math marks
4. data['Marks_Science'].max() → Maximum Science marks

Q4: Perform Some Data Analysis

- Find how many students have Marks_Math > 50.

- Find the student with the **highest Science marks**.
- Calculate the **correlation** between Marks_Math and Marks_Science.

🔷 Q5: Data Visualization

Use **Matplotlib/Seaborn** to create graphs:

1. A bar chart of Student_ID vs Marks_Math.
2. A histogram of Age.
3. A scatter plot of Marks_Math vs Marks_Science.

🔷 Q6: Save Your Work

- Save your notebook as Lab1_Assignment.ipynb.
- Submit the notebook file along with screenshots of graphs and outputs.