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East West University Department of Computer Science and Engineering

CSE 303: Statistics for Data Science LAB 03 (Exercise) Course Instructor: Md Aminul Kader Bulbul

Assignment: Statistical Analysis of Student Marks Data from CSV File

© Objective:

After completing this lab successfully, students will be able to:

- 1. Apply independently the Python Pandas functions and operations for data manipulation, analysis and cleaning.
- 2. Use Pandas functions properly and Write appropriate Python programs for data analysis.

Dataset:

A CSV file (students_marks.csv) will be provided. It contains the following columns:

Student_ID, Physics, Chemistry, Biology, Mathematics, English

Each row represents one student's marks in the five subjects.

Your Tasks:

Write a program in **Python** (preferably using **Pandas**) to:

- 1. **Read** the dataset from the CSV file.
- 2. Prompt the user to choose a subject (e.g., Physics).
- 3. Calculate and display the following statistics for that subject:
 - Mean (Average)
 - Median

- Mode
- Variance
- Standard Deviation
- 4. Display the **results neatly**, with appropriate labels.
- 5. Write a PDF report explaining your code in detail.
- 6. Submit your code and report in the classroom assignment.

★ Sample Output (for Physics):

Subject: Physics

Mean: 68.24 Median: 70.00 Mode: 65

Variance: 45.31

Standard Deviation: 6.72

A Rules:

• You must use libraries such as pandas(Dataframe)