Green University of Bangladesh

Department of Computer Science and Engineering(CSE)

Faculty of Sciences and Engineering

Semester: (Fall, Year:2024), B.Sc. in CSE (Day)

LAB REPORT # 01

Course Title: Microprocessor & Microcontroller

Lab Course Code: CSE **304** Section:222_D13

Lab Experiment Name: Introduction to assembly language and EMU 8086 instruction set

Student Details

Name		ID
	Md. Moshiur Rahman	221902324

Submission Date : 18/10/2024

Course Teacher's Name : **Tasnim Tayiba Zannat**

[For Teachers use only: Don't Write Anything inside this box]

Lab Report Status

Marks: ..... **Signature:**.....

Comments:..... **Date:**.....

1. TITLE OF THE LAB EXPERIMENT

• Discuss about advantage and disadvantages of assembly language compared to high level languages.
• Put 100H to register BX, Then move the contents of this register to AX register.
• After that add 10H to the contents of AX register.

2. OBJECTIVES/AIM

- Understand the advantages and disadvantages of assembly language compared to high-level languages.
- Implement simple register operations in assembly language using EMU 8086.

3. PROCEDURE / ANALYSIS / DESIGN

The following assembly language code was used to implement the task in the EMU 8086 simulator:

```
MOV BX , 100 H ; Load 100 H into BX
MOV AX , BX ; Move BX to AX
ADD AX , 10 H ; Add 10 H to AX
```

TEST RESULT / OUTPUT

After running the above code, the following results were obtained:

- The BX register contained the value 100H.
- This value was successfully moved to the AX register.
- After adding 10H, the final value in the AX register was 110H.

4. ANALYSIS AND DISCUSSION

1. Assembly language provides direct hardware control, ideal for memory management and embedded systems
2. Major drawbacks: CPU-specific code, steep learning curve, higher error risk

3. High-level languages offer:

I. Easier learning/usage through hardware abstraction
II. Cross-platform compatibility
III. Faster development with built-in features and libraries

5. SUMMARY:

We practiced assembly operations and compared it with high-level languages. While assembly excels at hardware control, high-level languages better suit modern software development needs.