

Sri Lanka Institute of Information Technology



**Lab Submission
<Worksheet No.2>**

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Fundamentals of Computing | IT1140

B.Sc. (Hons) in Information Technology

Activity 1

a) Line 1: Move 80h into AL register

Line 2: Move 7Fh into BL register

Line 3: compare AL value with BL value

Line 4: Jump to EXIT label if AL register is greater than BL register

b) Yes

Activity 2

Move the value 10 into the AX register

Move the value 5 into the BX register

Compare AX value with BX value

Jump to greater than if AX value is greater than BX value.

Yes, the program will jump to the ‘Greater than’ label because the value in ‘AX’ is greater than the value in ‘BX’

Activity 3

Move the value 10 into the AX register

Add 5 to the value stored in the AX.

Execution resumes at the ‘Exit’ label, where the subsequent code is executed.

After that jump to exit.

Activity 4

The screenshot shows a debugger interface with three main windows:

- Left Window (Assembly View):** Displays the assembly code for the program. The code includes instructions like `MOU CX,5`, `INT 21H`, and `MAIN ENDP`. The assembly code is color-coded: `ORG 100H` and labels are blue; `MAIN PROC` and `END MAIN` are red; comments like `/*` are green; and other instructions are black.
- Middle Window (Registers View):** Shows the CPU register state at address F400:0204. Registers include AX, BX, CX, DX, CS, IP, SS, SP, BP, SI, DI, DS, and ES. Each register has a value field (e.g., H, L) and a memory dump field below it. The CX register is highlighted with a yellow selection bar.
- Right Window (Memory Dump View):** Displays memory starting at address F400:0204. The dump area is mostly black, indicating zeroed memory. A yellow selection bar highlights the same memory range as the CX register in the registers pane.

Activity 5

The screenshot displays a Windows desktop environment with four open windows:

- edit: C:\emu8086\MySource\Lab02.asm**: A source code editor window showing assembly code for Lab02.asm. The code includes labels L1 and L2, loops, and an exit section.
- emulator screen (80x25 chars)**: A window showing the output of the assembly code execution, displaying a series of asterisks (*).
- emulator: Lab02.com**: A debugger window showing the CPU registers (AX, BX, CX, DX, CS, IP, SS, SP, BP, SI, DI, DS, ES) and memory dump panes for F400:0204h and F400:020Ah. The CX register is highlighted.
- original source code**: A window showing the assembly code from Lab02.asm, with the INT 21H instruction highlighted in yellow.