University of Asia Pacific (UAP)

Department of Computer Science and Engineering (CSE)

CSE 312: Microprocessor and Assembly Language Lab

Lab Assignment 2

N.B.: Upload the assignment in .pdf format renaming the pdf file as ID_Name.pdf

Problem Statement 1:

Perform the following operations using emu8086:

a) MOV CX, AX
b) MOV DX, BX
c) ADD CX, DX
d) SUB DX, CX
e) INC AX
f) DEC BX
g) NEG DX

Initially, AX = last 4 digits of your ID

And, BX = last 4 digits of your best friend's ID

Instructions:

Your assignment should contain the following in sequential order

1) The problem statement
2) Screenshot of the assembly code
3) Observe changes in the register at each step and provide screenshots of those changes in your report/assignment with proper description

4) Grasp each of the instructions, subsequent opcodes and decimal equivalent of each opcode in your experiment. Observe the logical address and physical address (PA). Include it in your report/assignment in a tabular form as shown below for each and every instruction:

Instructions	Opcode	Decimal Equivalent	Logical Address	Physical Address
MOV AX, 1004H	B8 04 10	184 004 016	0100:0000 0100:0001 0100:0002	01000 01001 01002

5) State the formula using which you calculate physical address from logical address
6) Identify and show the possible changes in flag registers for ADD, SUB, INC, DEC and NEG instructions attaching screenshots.

Note:

- Include a cover page in your assignment/report
- You must upload the .asm file and .pdf file in Google classroom within the stated deadline. The .asm file containing your source code and the .pdf file containing the report with required screenshots
- The .asm and .pdf file must contain your ID and Name as the filename