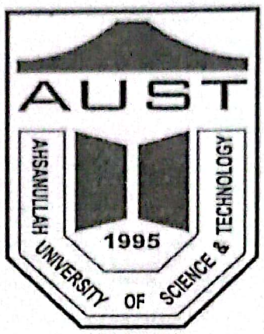

Ahsanullah University of Science & Technology

Department of Computer Science & Engineering

Course No : CSE2214
Course Title : Assembly Language Programming Sessional
Assignment No : 05

Date of Performance : 29.12.21
Date of Submission : 05.01.22

Submitted To : Mr. Sajib Kumar Saha Joy & Zarin Tasnim Shejuti

Submitted By
Group : B1
Name : Kazi Atiqur Rahman
Id : 190204086
Section : B

Question No: 01

Question: For each of the following instructions give the new destination contents and the new settings of CF, SF, ZF, PF and OF. Suppose that the flags are initially 0 in each part of this question.

1.1. ADD AX, BX where AX contains 7FFH and BX contains 0001H

1.2. DEC AL where AL contains 00H

1.3. NEG AL where AL contains 7FH.

1.4. XCHG AX, BX where AX contains 1ABCH and BX contains 712AH

Answer:

1.1. AX = 7FFFH
BX = 0001H

Binary of AX is 0111 1111 1111 1111
Binary of BX is 0000 0000 0000 0001
1000 0000 0000 0000

∴ In hexadecimal, the sum is = 8000H

CF = 0, because there is no carrcy out.

SF = 1. the MSB bit is 1.

ZF = 0, the rcesult is non-zerco.

PF = 1, because the low byte of the rcesult is even parcity.

OF = 1, because there is carrcy in but no carrcy out.

1.2.

AL = 00H

Binarcy of AL is 0000 0000

−1

1111 1111

In hexadecimal, the rcesult is FFH.

CF = 0, because CF will not effect forc DEC operation.

SF = 1, the MSB bit is 1.

ZF = 0, because the rcesult is non-zerco.

PF = 1, because the low byte of the rcesult has even numberc of 1.

OF = 0, because there arce both borrcow in and borrcow out.

1.3.

AL = 7FH

Binary of AL is 0111 1111

1's complement 1000 0000

+ 1

2's complement 1000 0001

In hexadecimal it is 81H

CF = 1, because the result is non-zero.

SF = 1, because the MSB bit is 1.

ZF = 0, because the result is non-zero.

PF = 1, because the low byte has even number of 1.

OF = 0, because there is no carry in and carry out.

1.4

After exchanging AX and BX will be

AX = 712AH

BX = 1ABCH

For exchanging, there is no effect on any flag.