16.317: Microprocessor Systems Design I

Fall 2015

Lecture 7: Key Questions
September 18, 2015

1. Describe the x86 flags.

2. Describe the operation of the ADD, ADC, and INC instructions.

3. Describe the operation of the SUB, SBB, DEC, and NEG instructions.

4. Given the following initial state:
    - AX = 1234H
    - BL = ABH
    - Memory location SUM = 00CDH

Show the results of each step of the following instruction sequence. Be sure to track the carry flag throughout the sequence:

        ADD AX, [SUM]
        ADC BL, 05H
        NEG BL
        SUB AX, 12H
        INC WORD PTR [SUM]