

16.317: Microprocessor Systems Design I

Spring 2015

Lecture 6: Key Questions February 6, 2015

1. Describe the operation of the ADD, ADC, and INC instructions.
2. Describe the operation of the SUB, SBB, DEC, and NEG instructions.

3. 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]
```