16.317: Microprocessor Systems Design I

Fall 2013

Lecture 7: Key Questions
September 18, 2013

1. Describe the operation of the MOVSX/MOVZX instructions. How/when are these instructions useful?

2. Assume: AX = 0100H, DX = 8100H, (DS:100H) = 00H, (DS:101H) = FFH. What are the results of the following instructions?

a. MOVSX EBX, AX

b. MOVSX EBX, DX

c. MOVZX EBX, DX

d. MOVSX EBX, BYTE PTR [100H]

e. MOVSX EBX, WORD PTR [100H]

3. Explain the operation of the XCHG instruction. What restrictions are placed on this instruction?

4. Explain the operation of the LEA instruction.

5. Explain the operation of the instructions used for loading a full address pointer (LDS, LSS, LES, LFS, LGS).