

16.317: Microprocessor Systems Design I

Fall 2015

Lecture 4: Key Questions September 11, 2015

1. Describe the general characteristics of the x86 architecture.

2. Briefly describe the x86 registers.

4. Describe the specifics of x86 memory addressing within instructions.

5. **Example:** Compute the address for the memory operand in each of the following instructions. The register contents and variables are as follows:

- $(ESI) = 00000100_{16}$
- $(EDI) = 00000200_{16}$
- $(EBX) = 00000300_{16}$

a. Destination operand in: `MOV [EBX+0400h], CX`

b. Destination operand in: `MOV [EDI+2*EBX], AH`

c. Destination operand in `MOV [EBX+EDI+0400h], AL`