

16.317: Microprocessor Systems Design I

Fall 2013

Lecture 14: Key Questions

October 7, 2013

1. Describe the operation of the compare instruction.

2. Complete the following table that describes the different x86 condition codes.

Mnemonic (cc)	Condition tested	Status flag setting for true condition
O		
NO		
B, NAE, C		
NB, AE, NC		
S		
NS		
P, PE		
NP, PO		
E, Z		
NE, NZ		
BE, NA		
NBE, A		
L, NGE		
NL, GE		
LE, NG		
NLE, G		

3. Describe the operation of the conditional move instruction.

4. Describe the operation of the SETcc instruction. How can this instruction be used?

5. **Example:** Show the results of the following instructions, assuming that
DS:100H = 0001H, DS:102H = 0003H, DS:104H = 1011H, DS:106H = 1011H,
DS:108H = ABCDH, DS:10AH = DCBAH

What complex condition does this sequence test?

```
MOV    AX, [100H]
CMP    AX, [102H]
SETLE  BL
MOV    AX, [104H]
CMP    AX, [106H]
SETE   BH
AND    BL, BH
MOV    AX, [108H]
CMP    AX, [10AH]
SETNE  BH
OR     BL, BH
```