

Name:

Id#

COE 205, Term 011

Computer Organization & Assembly Programming  
Quiz# 3

Date: Monday, Oct. 29

**Q1.** Give a single logic instruction to do each of the following:

- a. Convert the decimal digit (0-9) stored in register AL to its corresponding character. Note that the ASCII code of '0'=30h.
  
  
  
  
  
  
  
  
  
  
- b. Check if the number stored in register AL is even or odd.
  
  
  
  
  
  
  
  
  
  
- c. Complement the even bits in register AL while leaving the odd bits unchanged.

**Q2.** Write an 8086 assembly code to implement the following assuming that registers contain signed numbers:

```
For (I=-5; I<5; I++)  
    IF AX >= BX THEN  
        BX=BX*2;  
    ELSE  
        IF (BX < CX) AND (BX < DX) THEN  
            AX=AX+1  
        ELSE  
            DX=DX/2  
        END_IF  
    END_IF  
END_FOR
```

**Q3.** Suppose that register AX=EBEFh, CX=0184h and the carry flag is 0. Determine the content of register AX and the carry flag after executing the following instruction:

ROL AX, CL

**Q4.** Write an 8086 assembly program to multiply the signed content of register AL by 30.25 based on shift and addition instructions using the smallest number of instructions possible.