Name: KEY **Id#**

COE 205, Term 082

Computer Organization & Assembly Programming

Quiz# 4

Date: Saturday, May 23, 2009

Q1. Given that **TABLE1** and **TABLE2** are defined as:

TABLE1 BYTE 'COE 205'
TABLE2 BYTE 'SWE 205'

Determine the content of register **AX** after executing the following code:

```
        MOV ECX, lengthof TABLE1
        MOV EBX, -1
        XOR AX, AX
AGAIN:  JECXZ DONE
        INC EBX
        MOV DL, TABLE1[EBX]
        CMP DL, TABLE2[EBX]
        LOOPNE AGAIN
        JNE DONE
        INC AX
        JMP AGAIN
DONE:
```

The content of register AX will be 5 as the program counts the number of match characters between the two tables.

Q2. Determine the content of register **EAX** after executing the following code:

```
.686
.MODEL FLAT, STDCALL
.STACK

INCLUDE Irvine32.inc
.DATA
TABLE DWORD 10, 5, 200, -20, 30, 400, -60, 9, -1
.CODE
main PROC

PUSH offset TABLE      ; pushed as 32-bit
PUSH lengthof TABLE  ; pushed as  32-bit
CALL MYPROC
exit
main ENDP
MYPROC:
      MOV EBP, ESP
       PUSH EBX
       PUSH ECX
      MOV ECX, [EBP+4]
      MOV EBX, [EBP+8]
      MOV EAX, [EBX]
       DEC ECX
       ADD EBX, 4
NEXT:
      CMP EAX, [EBX]
      JG SKIP
      MOV EAX, [EBX]
SKIP:
     ADD EBX, 4
      LOOP NEXT
      POP ECX
     POP EBX
      RET 8
END main
```

The content of register EAX will be 00000190h=400d as the program computes the maximum of the elements of TABLE.