

Name: KEY

Id#

COE 205, Term 043
Computer Organization & Assembly Programming
Quiz# 6

Date: Sunday, August 7, 2005

Q1. Determine the content of register AX after executing the following code. Briefly describe the main functionality of the given procedure.

```
.model small
.data
MSG DB 'here is a test'
.code
.startup
    LEA AX, MSG
    PUSH AX
    MOV AX, 14
    PUSH AX
    MOV AL, 'e'
    PUSH AX
    CALL MYPROC
.exit
MYPROC PROC
    MOV BP, SP
    PUSH BX
    PUSH CX
    PUSH SI
    MOV BL, [BP+2]
    MOV CX, [BP+4]
    MOV SI, [BP+6]
    XOR AX, AX
NEXT:  INC SI
        CMP BL, [SI-1]
        LOOPNE NEXT
        JNE DONE
        INC AX
        JCXZ DONE
        JMP NEXT
DONE:  POP SI
        POP CX
        POP BX
        RET 6
MYPROC ENDP
END
```

The content of register AX is 3. The procedure gets as parameters the address of a string, the length of the string and a character for which it counts the number of its occurrences in the string. Since the character is 'e' the procedure finds that it occurs 3 times and returns 3 in AX.