

Name: KEY

Id#

COE 205, Term 051
Computer Organization & Assembly Programming
Quiz# 6

Date: Monday, Dec. 10, 2005

Q1. Suppose that you have the following initial content of registers and memory:

AX=1A22H BX=3C40H CX=4502H SP=1000H BP=1002H

Determine the content of SP, the modified stack locations and modified registers after the execution of each of the following instructions starting from the initial content of the registers and stack content for the execution of each instruction.

(i) **PUSH AX**

SP=SP-2=0FFE
[0FFF:0FFE]=1A22

Memory Location	Content
0FFD	1A
0FFE	CF
0FFF	36
1000	1B
1001	60
1002	32
1003	FF
1004	E4

(ii) **POP BX**

SP=SP+2=1002
BX=601B

(iii) **POP ECX**

SP=SP+4=1004
ECX=FF32601B

(iv) **RET 2**

SP=SP+2+2=1004
IP=[1001:1000]=601B

Q2. Determine the output displayed by executing the following code. Explain what the procedure DISPS does.

```
.model small
.stack 100h
.data
msg DB 'This is the last quiz in Assembly!!'
.code
.startup
    LEA AX, msg
    PUSH AX
    MOV AX, 8
    PUSH AX
    CALL DISPS

.exit
DISPS PROC
    MOV BP, SP
    PUSH CX
    PUSH SI
    PUSH AX
    PUSH DX
    MOV CX, [BP+2]
    MOV SI, [BP+4]
    MOV AH, 2
Next:
    MOV DL, [SI]
    INT 21H
    INC SI
    LOOP Next
    POP DX
    POP AX
    POP SI
    POP CX
    RET 4
DISPS ENDP
end
```

The program will display: **This is**

The procedure DISPS displays a specified number of characters from the given starting address of a string. The starting address of the string and the number of characters are passed as parameters through the stack.