

Name: KEY

Id#

**COE 205, Term 051**  
**Computer Organization & Assembly Programming**  
**Quiz# 3**

Date: Saturday, Oct. 8, 2005

**Q1.** Suppose that the following data declarations are allocated in the segment given in the DS register with an offset of 0. Show the content of the allocated memory, in **hexadecimal**. Note that the ASCII code of character 'A' is 41H and that of 'a' is 61H. Also, the ASCII code of character '0' is 30H.

```
I    DB    -5, '3AH'  
J    DW    3AH  
K    EQU   100  
L    DW    K+1  
      DD    offset I-1  
M    DB    5, 3 dup(-1,1)
```

Variable	Memory Address (Hex)	Memory Content Hex)	
<i>I</i>	0000	FB	
	0001	31	
	0002	41	
	0003	48	
<i>J</i>	0004	3A	
	0005	00	
<i>L</i>	0006	65	
	0007	00	
	0008	FF	
	0009	FF	
	000A	FF	
	000B	FF	
	<i>M</i>	000C	05
		000D	FF
000E		01	
000F		FF	
0010		01	
0011		FF	
0012		01	
0013			
0014			
0015			
0016			

**Q2.** Determine the output produced by the given program assuming that it receives character 'A' as an input. Note that the ASCII code for the **Line Feed** character is 10 and that for the **Carriage Return** is 13:

```
.model small
.stack 100h
.data
    LF EQU 10
    CR EQU 13
    MSG DB 'Enter a character:$'
    NLINE DB 10, 13, '$'
    CHAR DB ?, LF, '$'
.code
.startup

    MOV AH, 9
    MOV DX, offset MSG
    INT 21H
    MOV AH, 1
    INT 21H
    MOV CHAR, AL
    MOV AH, 9
    LEA DX, NLINE
    INT 21H
    MOV CX, 5
    LEA DX, CHAR
Next:  INT 21H
    INC CHAR
    LOOP Next

.exit
END
```

The output of the program will be as follows:

```
Enter a character:A
A
B
C
D
E
```