COE 205, Term 032
Quiz# 3 (28/03/04)

Student Name: Key Solution **ID:** **Section:**

Question 1: Given the following declaration in the logical data segment:

```
.data
    X    DW   2 DUP (34H)
    C1   EQU  234H
    W    DB   2 DUP (3, 2 DUP(0))
```

Show how these values would be represented in memory, if we suppose that data is put in memory starting from address: 1000 H

Variable	Address	Content	Variable	Address	Content
X	1000	34		1006	0
	1001	00		1007	3
	1002	34		1008	0
	1003	00		1009	0
W	1004	3			
	1005	0			

Question 2: Given the following register contents:

AX = F2E9H BX = 0002H CX = 08A0H DX = F1E0H
SI = 0001H DI = 0010H BP = C2E1H SP = 1258H
DS = 1EC0H ES = 2FF4H CS = 1EC0H SS = ABCDH IP = E001H

Calculate the physical address of the top of the stack?

Question 3: Specify the (source) addressing mode used in each of the following instructions. Notes that some are not valid instructions, in which case you don't have to specify the addressing mode.

	Instruction	T/F	Addressing Mode	Physical Address Calculation
1	SUB CH, BYTE PTR[BX+SI]	T	Based Indexed	DS x 10H + BX + SI
2	ADC CX, X[2]	T	Direct	DS x 10H + Offset X + 2
3	MOV [BX+3], M	T	Immediate	No physical address
4	ADD [SI+6], [BX + SI]	F	-	-
5	ADD BX, Word Ptr[BP+2]	T	Based	SS x 10H + BP

Question 4:

A. What would be the content of AL register after the following instructions?

```
LEA BX, W
MOV AL, 3
XLAT
```

AL <== [BX + AL]
AL <== [1004 + 3] = [1007] ➔ AL = 03

B. Give a name to this addressing mode: **Implicit addressing mode**