Homework #1
Due 6/12/03

Problem 1)
Identify the operand addressing mode used in each of these instructions.

a) MOV DX,[DI] _________________________

b) MOV AX,TABLE[BX] _________________________

c) MOV CX,27H _________________________

d) MOV ARRAY[SI][BX],BP _________________________

e) MOV [BP],BX _________________________

f) MOV BL,AL _________________________

g) MOV VAR,AX _________________________

Problem 2)
Refer to this code fragment to answer the following questions:

```asm
.data             segment public word 'data'
stuff            dw  4 dup (?)
var1            dw  0
var2            dw  1
var3            dw  23Fh
inx             dw  ?
string          db  'ABCD'
array           db  0,1,2,3,4,5,6,7
                db  8,9,10,11,12,13,14,15
.data   ends

.text            segment public word 'code'
mov   ax,seg _data
mov   ds,ax
mov   ax,var2   ;question a
mov   bx,ax
mov   al,string[bx]   ;question b, c
mov   cx,1122h   ;question d
mov   dl,cl
mov   dh,ah
mov   var1,dx   ;question e, f
mov   ah,dl
mov   array[8],ax
lea   si,array[bx+2]   ;question g
mov   al,[si]   ;question h
.text   ends
```

;---------------------------------
Answer the following questions. The comments on the above lines note which line of code pertains to each question:

a) What is the value in AX after this instruction?

b) What is the value of AX after this instruction?

c) What is the effective address (offset) used for the memory address in this instruction?

d) What value will be in CH after this instruction?

e) What value will be stored into memory by this instruction?

f) What is the effective address (offset) used for the memory address in this instruction?

g) What is the value in SI after this instruction?

h) What is the value in AX after this instruction?

Problem 3)
Refer to the above fragment of code again. The name ‘array’ is associated with a memory array containing 16 bytes. Construct a table showing the offset and value of each byte of the array both before after the execution of the above code. (Note: The offset of the first location in the ‘_data’ segment will be 0h.)