ASSEMBLY LANGUAGE

TUTORIAL QUESTIONS

Discuss extensively four (4) different addressing modes known to you siting one example each.

Discuss the differences between a queue and a stack.
What is stack underflow? Which stack operation can potentially cause stack underflow?
What is stack overflow? Which stack operation can potentially cause stack overflow?
What are the main uses of the stack?

In the following code fragments, state whether `mov AX,10` or `mov BX,1` is executed:

```
(i)                          (ii)
mov CX,15BAH                 mov CX,5
mov DX,8244H                 not CX
and DX,CX                    mov DX,10
jz jump1                     cmp CX,DX
mov BX,1                     jg jump1
jmp skip1                    mov BX,1
jump1:                       jmp skip1
mov AX,10                    jump1:
```

Assembly language programs are created out of three different classes of statements. List and explain these classes of statements.

For each of the following statements, what is the amount of storage space reserved (in bytes)? Also indicate the initialized data.

(i) table TIMES 100 DW -1
(ii) count DW 40000
(iii) msg1 DB 'Finder's fee is:',0
(iv) msg3 DB 'Sorry! Invalid input.',0DH,0AH,0

Describe in one sentence what the following code is accomplishing in terms of number manipulation:

a)		b)	
not	AX	not	AX
add	AX,1	inc	AX

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Assume that the registers are initialized to
EAX = 12345D, EBX = 9528D

What is the destination operand value (in hex) after executing the following instructions:

(a) add EAX, EBX (b) sub-AX, CX

Write a program that reads an input number (given in decimal) between 0 and 65,535
and displays the hexadecimal equivalent.