Assembly Language – Assembly Language Fundamentals (1)

Group :	Student ID :	Name :hey大家安安 安安安安安安安 機老嘎抓到此一遊 嘿匿名袋熊
	Student ID :	Name :他這次都沒給其他空格打廢話

3-1 Basic Elements of Assembly Language

Objective: Basic Architecture of Assembly Language

Answer the following question (marked a and b in comment) in the assembly code below.

```
TITLE Add and Subtract              (AddSub.asm)
; This program adds and subtracts 32-bit integers.
INCLUDE Irvine32.inc

.data
; a.The following code have an error on it, try to find it
; and explain it.
```

ANS: (remember to add your explanation)
0E7h beginning with letter should add 0(57)

```
 Val1 BYTE 11001011b

 Val2 BYTE 120

 Val3 BYTE E7h


.code
main PROC
; b. Give comment of each line below
        mov ebx,50000h          ; ebx = 50000h

        add eax,30000h          ; eax += 30000h(54)
                                ; eax = 30000h(81)

        sub eax,20000h          ;eax = 10000h(50)
                                ;eax = 10000h(37)
                                ;eax -= 20000h(5)

        sub ebx,20000h          ; ebx = 30000h(16)
                                ; ebx -= 20000h(30)
                                ;

L1:   exit
main ENDP
END main
```

c.   Suppose registers below has not executed any instructions yet, the registers value will be:

EAX	00000000h	EBP	0018ff94h
EBX	00001000h	ESP	0018ff8ch
ECX	00000000h	ESI	00000000h
EDX	00401000h	EDI	00000000h

What will happen if the program stops at L1?

EAX	00010000h(3)	EBP	0018ff94h
EBX	00030000h(60)	ESP	0018ff8ch
ECX	00000000h(38)	ESI	00000000h
EDX	00401000h(7)	EDI	00000000h