**Computer Organization and Assembly Language**

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| **Lab 02** | |
| **Topic** | Usage of add, sub instructions |

**PART 1**

**Dry run these code snippets, observe the memory values verify the calculations on the basis of binary and hexa both.**

**Comment the status of respective registers in front of the lines.**

**Problem 1:**

Mov al,90

Mov bl,10

Add al,bl

**Problem 2:**

Mov ah,0xE7

Mov bh,0xAB

add ah,bh

**Problem 3:**

Mov cx,765

Mov dx,900

Sub dx,cx

**Problem 4:**

Mov ax,0

Mov bx,0xF

Sub ax,bx

**Problem 5:**

Mov ax,-8

Mov bx,8

Add ax,bx

**Problem 6:**

Mov ah,34

Mov dl,0x50

Mov cx,ax

Mov bx,dx

Sub bx,cx

**Problem 7: (Correct the errors in the code below)**

Mov al,900

Mov bx,-64

Add ax,bx

Sub ax,100

Mov cx,dl

Add cx,bl

Sub dx,-50

**Problem 8:(observe the logical mistake and correct it)**

[org 0x100]

Mov ax,[var1]

Mov bx,[var2]

Add ax,bx

Mov [var3],ax

mov ax,0x4c00

int 21h

var1: db 99h

var2: dw 0xAB

var3: dw 0

**Problem 9: (observe the memory contents)**

[org 0x100]

Mov bx,[number1]

mov ax,0x4c00

int 21h

number1: db 247

number2: dw 0x247

number3: db 70

number4: dd 0xABCD5678