



**Department of Computer Science and Engineering**

**21st Batch**

**Lab Report 4**

Course title : Microprocessor and Assembly Language
Course Code : CSE-334

| Submitted By | Submitted To |
|---|---|
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Signature

**Problem Statement:** Implementing :

Enter first value : 4

Enter second value : 2

4+2 = 6

4-2 = 2

**Theory:** To Print the coder's name by Assembly code using emu8086 character by character, we will use the default assembly format to print a single character. To do so, we will use two different registers. "**AH**" register as the mode of the code and "**VAR3(C), VAR1(A), VAR2(B)**" to store the input values, which will be calculated and stored at "**REST**" and "**REST1**"then printed using "**DL**" register and the "**INTERRUPT ROUTINE 21H**".

## CODE:

```
.MODEL SMALL
.STACK 100H
.DATA
NL EQU 0AH,0DH
IS DB " IS : $"                    ; USING EQU TO CREATE A CONSTANT
MSG DB "HELLO EVERYONE!!!!",NL,"$"
MSG1 DB "LEST SUM UP AND SUBTITUTE 2 NUMBERS ",NL,"FROM HERE :
",NL,"$"
MSG2 DB "ENTER THE FIRST INPUT : $"
MSG3 DB NL,"ENTER THE SECOND INPUT : $"
MSG4 DB NL,NL,"RESULT FOR $"
VAR1 DB ?
VAR2 DB ?
VAR3 DB ?
RSLT DB ?
RSLT1 DB ?
```

```
.CODE
MAIN PROC
    MOV AX,@DATA
    MOV DS,AX

    MOV AH,9
    LEA DX,MSG      ;LEA = LOAD EFFECTIVE ADDRESS
    INT 21H

    MOV AH,2
    MOV DL,0AH
    INT 21H

    MOV DL,0DH      ;EXTRA NEW LINE
    INT 21H

    MOV AH,9        ;MESSAGE FOR THE USER
    LEA DX,MSG1
    INT 21H


    MOV AH,2        ;NEWLINE
    MOV DL,0AH
    INT 21H
    MOV AH,2
    MOV DL,0DH
    INT 21H

    MOV AH,9
    LEA DX,MSG2
    INT 21H

    MOV AH,1     ;1ST VALUE
    INT 21H
    MOV VAR1,AL
    MOV CH,VAR1
    SUB CH,30H

    MOV AH,9
    LEA DX,MSG3
```

```
INT 21H

MOV AH,1     ;2ND VALUE
INT 21H
MOV VAR2,AL
MOV CL,VAR2
SUB CL,30H

ADD CH,CL    ;ADDITION
ADD CH,30H
MOV RSLT,CH

MOV CH,VAR1  ;SUBSTRACTION
SUB CH,CL
MOV RSLT1,CH

MOV AH,9
LEA DX,MSG4
INT 21H

MOV AH,2
MOV DL,VAR1
INT 21H

MOV DL,"+"
INT 21H

MOV DL,VAR2
INT 21H

MOV AH,9
LEA DX,IS
INT 21H

MOV AH,2
MOV DL,RSLT
INT 21H

MOV AH,9
LEA DX,MSG4
```

```
    INT 21H

    MOV AH,2
    MOV DL,VAR1
    INT 21H

    MOV DL,"-"
    INT 21H

    MOV DL,VAR2
    INT 21H

    MOV AH,9
    LEA DX,IS
    INT 21H

    MOV AH,2
    MOV DL,RSLT1
    INT 21H



    MOV AH,4CH
    INT 21H
MAIN ENDP
   END MAIN
```

# Result:


emulator screen (239x81 chars)
HELLO EVERYONE!!!!
LEST SUM UP AND SUBTITUTE 2 NUMBERS
FROM HERE:
ENTER THE FIRST INPUT: 4
ENTER THE SECOND INPUT: 2
RESULT FOR 4+2 IS: 6
RESULT FOR 4-2 IS: 2
clear screen
change font
1:03 PM
2/15/2022