

MICROCONTROLLER

Practical -1

Addition & Subtraction

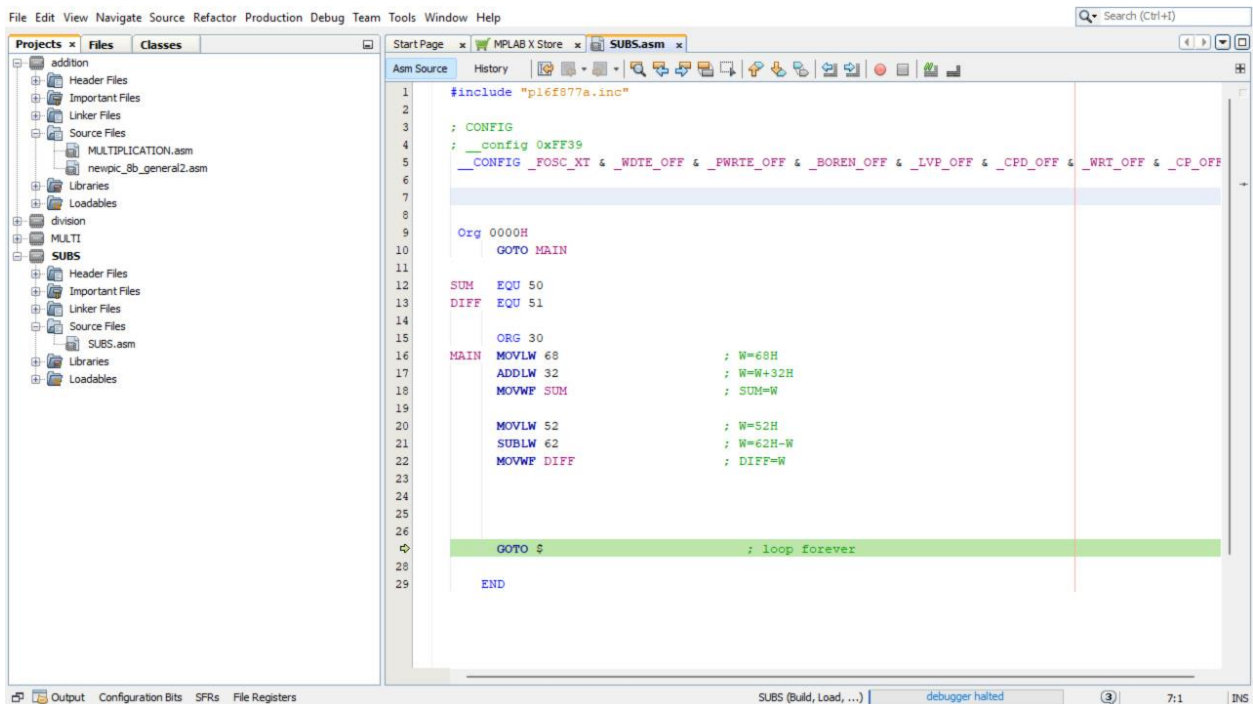
AIM:

Write a MPLAB program/ALP for addition and subtraction.

APPARATUS REQUIRED:

MPLAB X IDE

Input (code):



The screenshot displays the MPLAB X IDE interface. The left pane shows a project tree with folders for 'addition', 'division', 'MULTI', and 'SUBS'. The 'SUBS' folder is expanded, showing 'SUBS.asm'. The main editor window displays the assembly code for 'SUBS.asm'. The code includes a configuration section, a main loop, and a goto statement for looping forever.

```
1 #include "p16f877a.inc"
2
3 ; CONFIG
4 ; _config 0xFF39
5 _CONFIG _FOSC_XT & _WDTE_OFF & _FWRTE_OFF & _BOREN_OFF & _LVP_OFF & _CPD_OFF & _WRT_OFF & _CP_OFF
6
7
8
9
10 Org 0000H
11 GOTO MAIN
12
13 SUM EQU 50
14 DIFF EQU 51
15
16 ORG 30
17 MAIN MOVLW 68 ; W=68H
18 ADDLW 32 ; W=W+32H
19 MOVWF SUM ; SUM=W
20
21 MOVLW 52 ; W=52H
22 SUBLW 62 ; W=62H-W
23 MOVWF DIFF ; DIFF=W
24
25
26 GOTO $ ; loop forever
27
28
29 END
```

OUTPUT:

Loadables

```
20      ADDWF 05      ; W←RTJ2H
21      MOVWF SUM      ; SUM=W
22
23      MOVLW 52      ; W=52H
```

SFRs

	Address /	Name	Hex	Decimal	Binary	Char
		WREG	0x10	16	00010000	'.'
000		INDF	0x00	0	00000000	'.'
001		TMR0	0x00	0	00000000	'.'
002		PCL	0x36	54	00110110	'6'
003		STATUS	0x1B	27	00011011	'.'
004		FSR	0x00	0	00000000	'.'

Memory SFRs Format Individual

Output Configuration Bits SFRs File Registers

SFRs - Memory View

SUBS (Bu