Manual for Experiment-2

Objective: WAP in 8086, to perform 16-bit addition and subtraction where desired operands are stored at the location 4000 and 4002.

Requirements: VMC-8609AD microprocessor kit and a keyboard as a user interface for the kit.

Program:

For, Addition

- MOV SI, 4000
- MOV AX, [SI]
- INC SI
- INC SI
- MOV BX, [SI]
- ADD AX, BX
- INC SI
- INC SI
- MOV [SI], AX
- INT 03

Similarly, for subtraction:

- MOV SI, 4000
- MOV AX, [SI]
- INC SI
- INC SI
- MOV BX, [SI]
- SUB AX, BX
- INC SI
- INC SI
- MOV [SI], AX
- INT 03

Procedure: Reset your kit, and Press "A" to assemble then write the assembly language program line by line. After writing the code, press 'F7' to open the menu of the kit then press 'F' to write the input values to the desired memory locations as given in the table,

Addition	Subtraction

4000 : 00	4000 : 90
4001 : 01	4001 : 01
4002 : 02	4002 : 40
4003 : 03	4003 : 01

Now, press 'G' to run the program and then press 'F7' to open the menu. Results of a memory location will be displayed by 'D' option and the memory location, specified by the user.

Results: Results of addition of 2 16-bit numbers 0201H and 0403H will be 0604H whereas 04 will be stored at location 4004 and 06 will be stored at 4005. Result obtained by the subtraction of 0140H from 0190H will be 0050H where 50 will be stored at location 4004 and 00 will be stored at location 4005.