EXPERIMENT 5

Aim :

Write a Program to Perform Addition of 2 Strings in 8086 Microprocessor.

Requirements :

8086 Emulator Software.

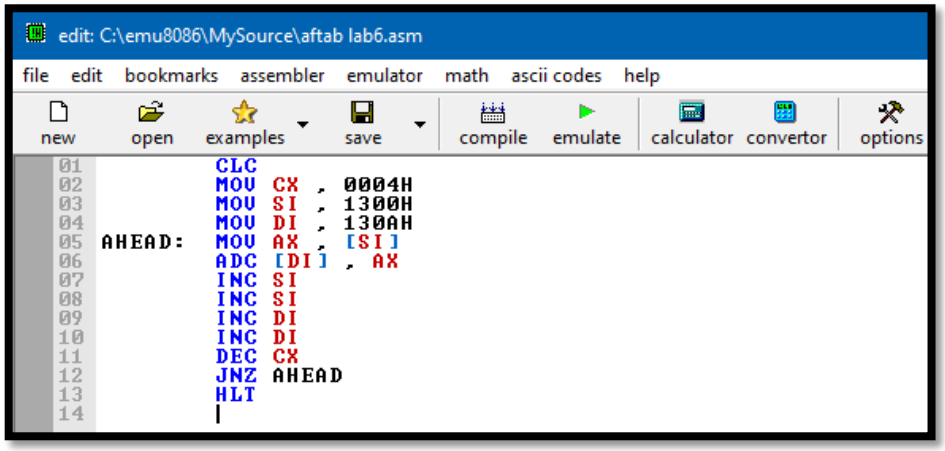
Procedure :

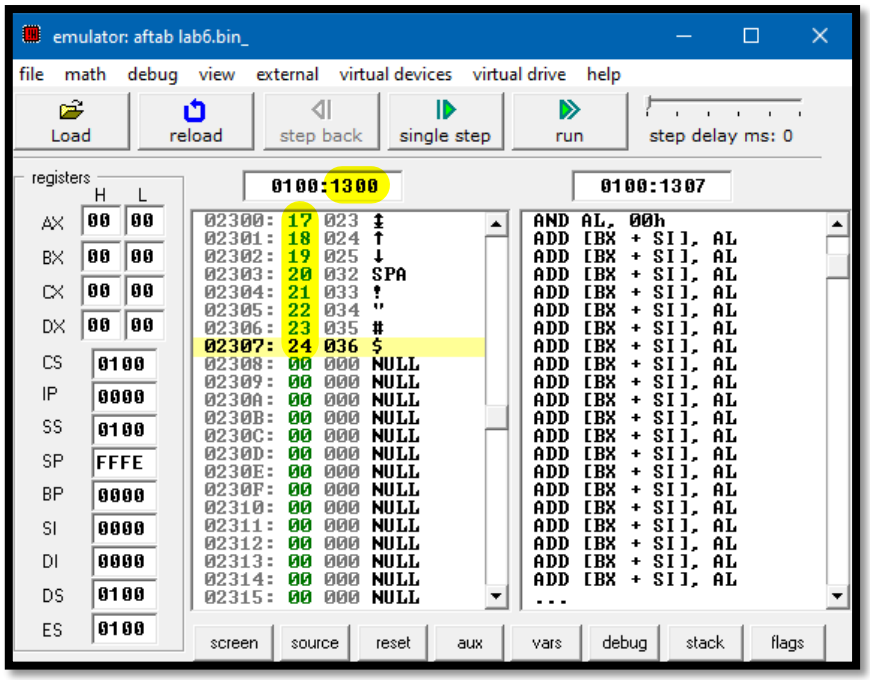
1. Open 8086 Emulator, click on new and select BIN template.
2. Write the code in assembler window.
3. After writing the code in window, click on the emulate button.
4. Check for errors and fix them.
5. If the code is correct, emulator window will popup where we have to input values at defined locations.
6. Input the values using extended value viewer and click on the run button.
7. Observe the result of addition at defined location.

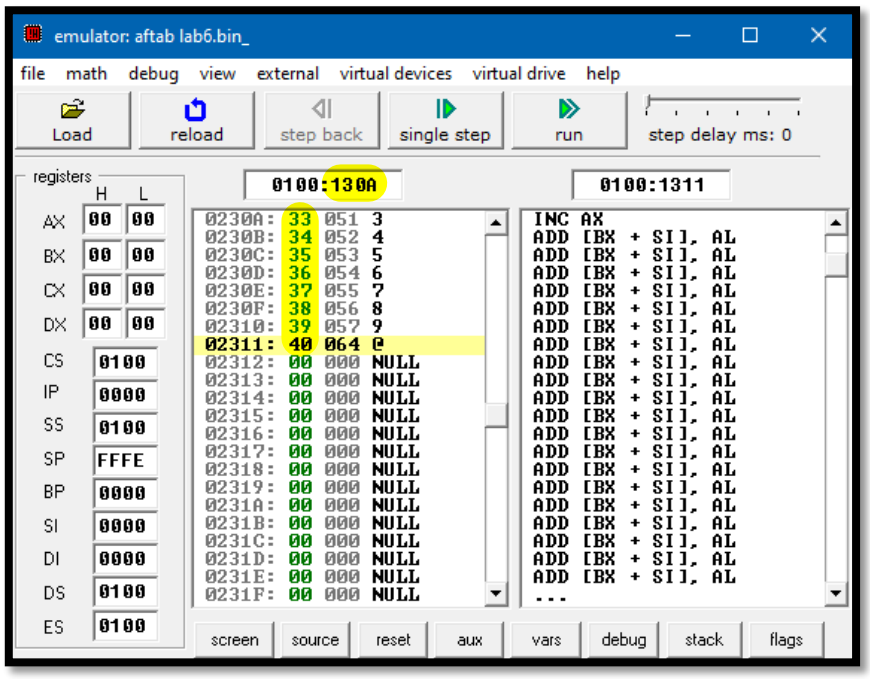
Program to Add 2 Strings :

Address	Mnemonics	Operands	Comments
0000H	CLC		Clear Carry Flag that is CF = 0
0001H	MOV CX	0004H	Move 0004H to CX (Counter)
0004H	MOV SI	1300H	Move the value from 1300H to SI
0007H	MOV DI	130AH	Move the value from 130AH to DI
000AH	AHEAD | MOV AX , [SI]		Give effective address of SI to AX
000CH	ADC [DI] , AX		Perform Addition with Carry
000EH	INC SI		Increment SI register by 1
000FH	INC SI		Increment SI register by 1
0010H	INC DI		Increment DI register by 1
0011H	INC DI		Increment DI register by 1
0012H	DEC CX		Decrement CX by 1 (Counter)
0013H	JNZ AHEAD		Jump to AHEAD (000AH) if ZF = 0
0015H	HLT		End of program

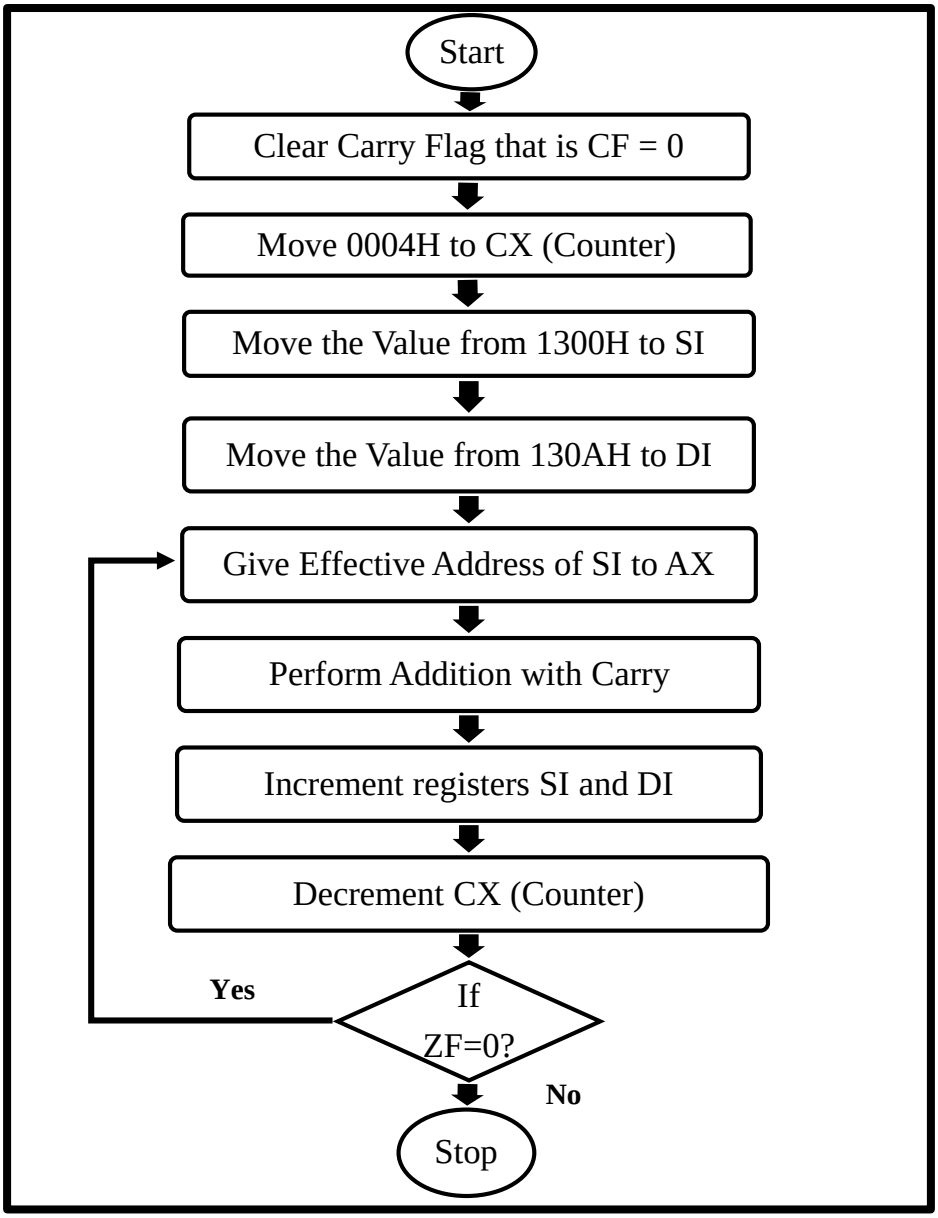
Screenshots :





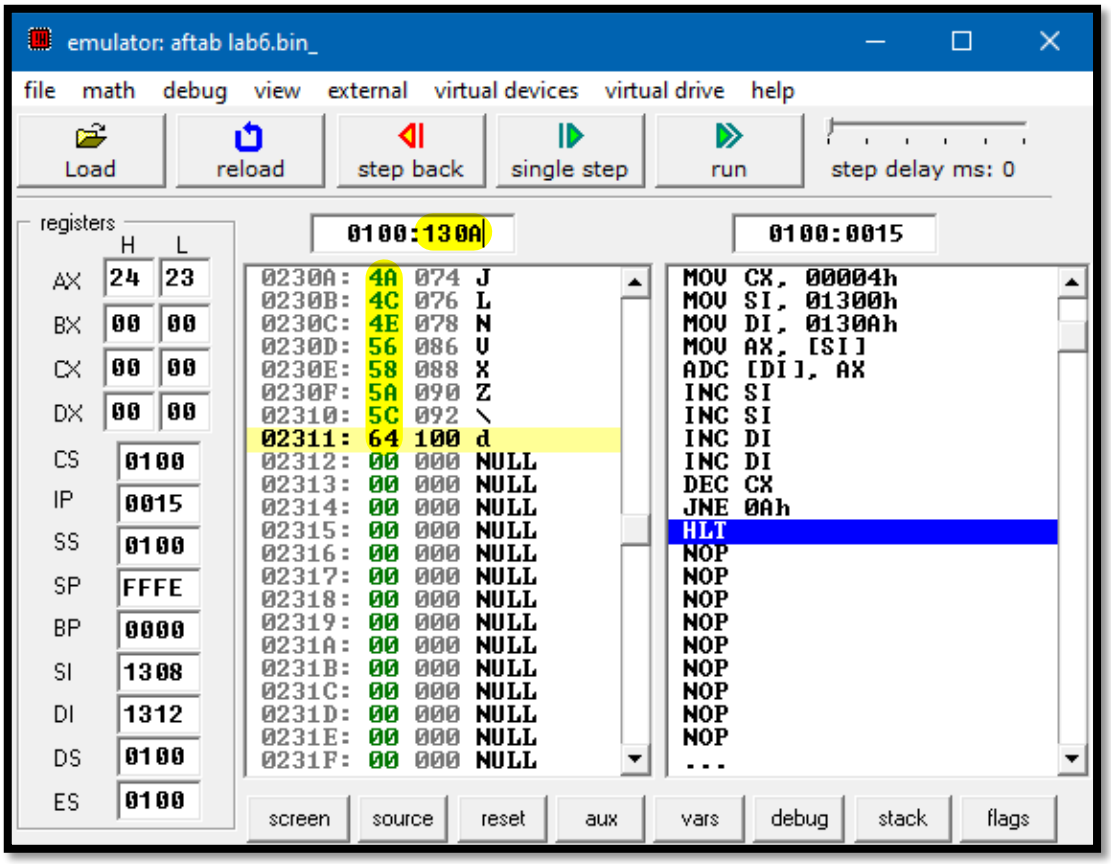


Flow Chart :


Start
Clear Carry Flag that is CF = 0
Move 0004H to CX (Counter)
Move the Value from 1300H to SI
Move the Value from 130AH to DI
Give Effective Address of SI to AX
Perform Addition with Carry
Increment registers SI and DI
Decrement CX (Counter)
If
ZF=0?
Yes
No
Stop

Output :

Before Execution	String 1 : SI (1300H)	17	18	19	20	21	22	23	24
Before Execution	String 2 : DI (130AH)	33	34	35	36	37	38	39	40
After Execution	Addition Result (130AH)	4A	4C	4E	56	58	5A	5C	64



Result :

Program to Add 2 Strings in 8086 Microprocessor was implemented successfully.