

Algorithm

The location of the 1st number is moved into Source Index (SI) & the location to store the sum is moved into Destination Index (DI). The 1st number is moved from the location in SI to AX. Then SI is incremented twice to get the location of the 2nd number. The 2nd number is moved from the location in SI to BX. BX is added to AX & the sum is stored in AX. If there is no carry, jump to location 0415H. Otherwise 0001 is moved to the location in DI & DI is then incremented. If no carry 0000 is moved to the location in DI & DI is then incremented. The sum is then moved from AX to the location in DI. Then the program ends with the HLT instruction.


Input

0600/01	0600/03
2 5	2 5

0604/05	0606/07
0 0	7 5

Output

0500/01	0502/03	0504/05
0 1	0 0	2 5



Aim

To perform the addition of two 16-bit numbers using 8086 trainer kit

Program

Address	Instruction	Comment
0400	MOV SI, 0600	Set source index to 0600H
0403	MOV DI, 0500	Set destination index to 0500H
0406	MOV AX, [SI]	Move the 1st number from SI to AX
0408	INC SI	
0409	INC SI	
040A	MOV BX, [SI]	Move the 2nd number from SI to BX
040C	ADD AX, BX	Add the 2 numbers
040E	JNC 0415	Jump to 0415H if there is no carry
0410	MOV [DI], 0001	
0413	JMP 0418	Jump to 0418H
0415	MOV [DI], 0000	
0418	INC DI	
0419	MOV [DI], AX	Move the sum to destination index
041B	HLT	

Result

Performed the addition of two 16-bit numbers using 8086 trainer kit

Teacher's Signature: _____