

Q.1. Write an assembly language to add two 8-bit numbers without carry. Solution:

AIM: To write a program that adds two 8-bit numbers.

Requirements: i) 8085 Microprocessor kit / 8085 Simulator

ii) (0 –5v) DC Battery

Algorithm:

Step1: Start the microprocessor.

Step2: Load the first 8-bit data into accumulator.

Step3: Load the second 8-bit data into register B

Step4: Add the two 8-bit data.

Step5: Store the result from accumulator to the specified memory location.

Step6: Stop the program execution.

Flow Chart:

START

Load the 1st number in A

Load 2nd number in B

ADD A and B

STORE the result in 8050

END

Main Program:

MVI A, 02

MVI B, 04

ADD B

STA 8050

HLT

Result after Assembling:

Address	OP Code
8000	
8001	
8002	
8003	
8004	
8005	
8006	
8007	
8008	
8009	

Final Result: 8050 =

Conclusion: Hence the two 8-bit data was being added using 8085 microprocessor and result was verified.

Q.2. Write an assembly language to subtract two 8-bit numbers without borrow.

Solution:

AIM: To write a program that adds two 8- bit numbers.

Requirements: i) 8085 Microprocessor kit / 8085 Simulator

ii) (0 –5v) DC Battery

Algorithm:

Step1: Start the microprocessor.

Step2: Load the first 8-bit data into accumulator.

Step3: Load the second 8-bit data into register B

Step4: Subtract the two 8-bit data.

Step5: Store the result from accumulator to the specified memory location.

Step6: Stop the program execution.

Flow Chart:

Load the 1st number in A Load 2nd

number in B Subtract B from A

STORE the result in 8050 END

Main Program: MVI A, 04

MVI B, 02

SUB B

STA 8050

HLT

STRAT

Result after Assembling:

Address	OP Code
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8000	
8001	
8002	
8003	
8004	
8005	
8006	
8007	
8008	
8009	

Final Result: 8050 =

Conclusion: Hence the two 8-bit data was being subtracted using 8085 microprocessor and result was verified.