EXPERIMENT NO: 3

AIM: WRITE A PROGRAM TO ADD BLOCK OF 8-BIT DATA STORED IN MEMORY LOCATIONS.

PROGRAM:

```
        MVI C,00H
        MVI D,05H
        MVI A,00H
        LXI H,2050H

AGAIN:  ADD M
        JNC NEXT
        INR C

NEXT:   INX H
        DCR D
        JNZ AGAIN

LOOP:   STA 2055H
        MOV A,C
        STA 2056H
        HLT
```

OBSERVATION:

Input: 2050H: 30H (First data)
2051H: 10H (Second data)
2052H: 10H (Third data)
2053H: 10H (Fourth data)
2054H: 05H (Fifth data)
Output: 2055H: 55H (Result of addition)
2056H: 00H (Carry, if generated)

CONCLUSION:

EXPERIMENT NO: 4

PART A: WRITE AN 8085 ASSEMBLY LANGUAGE PROGRAM TO FIND THE MINIMUM FROM TWO 8-BIT NUMBERS.

PROGRAM:

```
        MVI A,00H
        LXI H,4201H
        MOV A,M

        INX H
        CMP M
        JC AHEAD
        MOV A,M

AHEAD: STA 4203H
        HLT
```

OBSERVATION:

Input: 4201H: 09H
4202H: 30H
Output: 4203H: 09H

PART B: WRITE AN 8085 ASSEMBLY LANGUAGE PROGRAM TO GET THE MINIMUM FROM BLOCK OF N 8-BIT NUMBERS.

ALGORITHM:

1. Load the address of the first element of the array in HL pair.
2. Move the count to B register.
3. Increment the pointer.
4. Get the first data in Accumulator.
5. Decrement the counter.
6. Increment the pointer.
7. Compare the content of memory addressed by HL pair with that of Accumulator.
8. If carry=1, go to step 10 or if carry=0, go to step 9.
9. Move the content of memory addressed by HL to Accumulator.
10. Decrement the count.
11. Check for zero of the count. If ZF=0, go to step 6, or if ZF=1, go to next step.

12. Store the smallest data in memory.
13. Terminate the program.

PROGRAM:

```
        MVI C,04H
        MVI A,00H
        LXI H,4201H
        MOV A,M

LOOP:   INX H
        CMP M
        JC AHEAD
        MOV A,M
        DCR C
        JNZ LOOP
        STA 420AH
        JMP LAST

AHEAD:  DCR C
        JNZ LOOP
        STA 420AH

LAST:   HLT
```

OBSERVATION:

Input: 4201H: 20H
4202H: 05H
4203H: 09H
4204H: 30H
4205H: 23H
Output: 430AH: 05H

CONCLUSION: