

## Practical-9

### Aim: Program Related to ARITHMETIC Instruction.

1. Load 41H in Accumulator and 03H in Register C. Add these two numbers and store result at the memory location 1100H.

```
1
2 ;<Program title>
3
4 jmp start
5
6 ;data
7
8
9 ;code
10 start: nop
11
12 lda 03H
13 mov c, a
14 lda 41H
15 add c
16 sta 1100H
17
18 hlt
```

Data	Stack	KeyPad	Memory	I/O Ports
Start <input type="text" value="41h"/> <input type="button" value="OK"/>				
Address (Hex)	Address	Data		
0041	65	10		

Data	Stack	KeyPad	Memory	I/O Ports
Start <input type="text" value="03h"/> <input type="button" value="OK"/>				
Address (Hex)	Address	Data		
0003	3	45		

Data	Stack	KeyPad	Memory	I/O Ports
Start <input type="text" value="1100h"/> <input type="button" value="OK"/>				
Address (Hex)	Address	Data		
1100	4352	55		

2. Store two numbers in memory locations C200H and C201H. Add these two numbers and store result on memory location C202H(numbers are 59H and 77H).

```

1
2  ;<Program title>
3
4  jmp start
5
6  ;data
7
8
9  ;code
10 start: nop
11
12 lda  59H
13 sta  49664
14 mov  c, a
15 lda  77H
16 sta  49665
17 add  c
18 sta  49666
19
20
21 hlt

```

Data Stack KeyPad **Memory** I/O Ports

Start

Address (Hex)	Address	Data
0059	89	62

Data Stack KeyPad **Memory** I/O Ports

Start

Address (Hex)	Address	Data
0077	119	85

Data Stack KeyPad **Memory** I/O Ports

Start

Address (Hex)	Address	Data
C200	49664	62
C201	49665	85
C202	49666	147

3. Load the accumulator by 40H and get another number from memory location 1102H 03H) and add the two numbers. Store the result to location 1105H check the carry flag.

```

1
2 ;<Program title>
3
4 jmp start
5
6 ;data
7
8
9 ;code
10 start: nop
11 |
12 lda 1102H
13 mvi c, 00H
14 mov b, a
15 lda 40H
16 add b
17 jnc loop
18 inc c
19 loop: sta 1105H
20 mov a, c
21 sta 03H
22
23 hlt

```

Data Stack KeyPad Memory I/O Ports				
Start		40h		OK
Address (Hex)	Address	Data		
0040	64	128		

Data Stack KeyPad Memory I/O Ports				
Start		1102h		OK
Address (Hex)	Address	Data		
1102	4354	255		

Data Stack KeyPad Memory I/O Ports				
Start		1105h		OK
Address (Hex)	Address	Data		
1105	4357	127		

Data Stack KeyPad Memory I/O Ports				
Start		03h		OK
Address (Hex)	Address	Data		
0003	3	1		

4. Load a numbers 49H in register B and number 12H in register A. perform subtraction and store result to memory location C200H.

```
1
2 ;<Program title>
3
4 jmp start
5
6 ;data
7
8
9 ;code
10 start: nop
11
12 lda 49H
13 mov b,a
14 lda 12H
15 sub b
16 sta 49664
17
18 hlt
```

**Data** **Stack** **KeyPad** **Memory** **I/O Ports**

Start

Address (Hex)	Address	Data
0049	73	16

**Data** **Stack** **KeyPad** **Memory** **I/O Ports**

Start

Address (Hex)	Address	Data
0012	18	36

**Data** **Stack** **KeyPad** **Memory** **I/O Ports**

Start

Address (Hex)	Address	Data
C200	49664	20