

## **LOGICAL OPERATIONS**

**EXP NO: 20**

### **AIM:**

To compute various logical operations using 8085 processor.

### **ALGORITHM:**

- 1) Load data to accumulator.
- 2) Load another data in register
- 3) Perform logical operations like AND, OR and XOR (Use ANA, ORA, XRA) with the accumulator content.
- 4) Store the result in specified memory location.

**PROGRAM:**

**AND  
OPERATION:**

MVI  
A,06

MVI  
B,04

ANA  
B

STA  
2500

HLT

**OR  
OPERATION:**

MVI  
A,07

MVI  
B,06

ORA  
B

STA  
2000

HLT

**XOR  
OPERATION:**

MVI  
A,03

MVI  
B,08

XRA  
B

STA  
2000

HLT

**INPUT:**  
**AND OPERATION**

```
MVI A, 06  
MVI B, 04
```

**OR OPERATION**

```
MVI A, 07  
  
MVI B, 06
```

**X OR OPERATION**

```
MVI A, 07  
  
MVI B, 05|
```

OUTPUT:

AND OPERATION

FileResetAssemblerDebugHelp

Registers

A04

BC0400

DE0000

HL0000

PSW0000

PC420D

SPFFFF

Int-Reg00

Flag

S0

Z0

AC1

P0

C0

Decimal - Hex Conversion

Decimal

0

Hex

0

To Hex

To Dec

I/O Ports

0

-

+

00

Update Port Value

Memory

0

-

+

00

Update Memory

Load me at

1;<Program title>

2

3

4jmp start

5

6;data

7

8

9;code

10start: nop

11

12MVI A,06

13MVI B,04

14ANA B

15STA 2500

16HLT

17hlt

DataStackKeyPadMemoryI/O Ports

Start2500

OK

Address (Hex)AddressData

09C425004

09C525010

09C625020

09C725030

09C825040

09C925050

09CA25060

09CB25070

09CC25080

09CD25090

09CE25100

09CF25110

Line NoAssembler Message

0Program assembled successfully

Simulator: Idle

27°C

Partly sunny

Search

ENG

IN

09:00

18-10-2023

OR OPERATION

FileResetAssemblerDebugHelp

Registers

A07

BC0600

DE0000

HL0000

PSW0000

PC420D

SPFFFF

Int-Reg00

Flag

S0

Z0

AC0

P0

C0

Decimal - Hex Conversion

Decimal

0

Hex

0

To Hex

To Dec

I/O Ports

0

-

+

00

Update Port Value

Memory

0

-

+

00

Update Memory

Load me at

1;<Program title>

2

3

4jmp start

5

6;data

7

8

9;code

10start: nop

11

12MVI A,07

13

14MVI B,06

15

16ORA B

17

18STA 2000

19

20

21

22HLT

23

24

25

26

27

28

29

30hlt

DataStackKeyPadMemoryI/O Ports

Start2000

OK

Address (Hex)AddressData

07D020007

07D120010

07D220020

07D320030

07D420040

07D520050

07D620060

07D720070

07D820080

07D920090

07DA20100

07DB20110

Line NoAssembler Message

0Program assembled successfully

Simulator: Idle

27°C

Partly sunny

Search

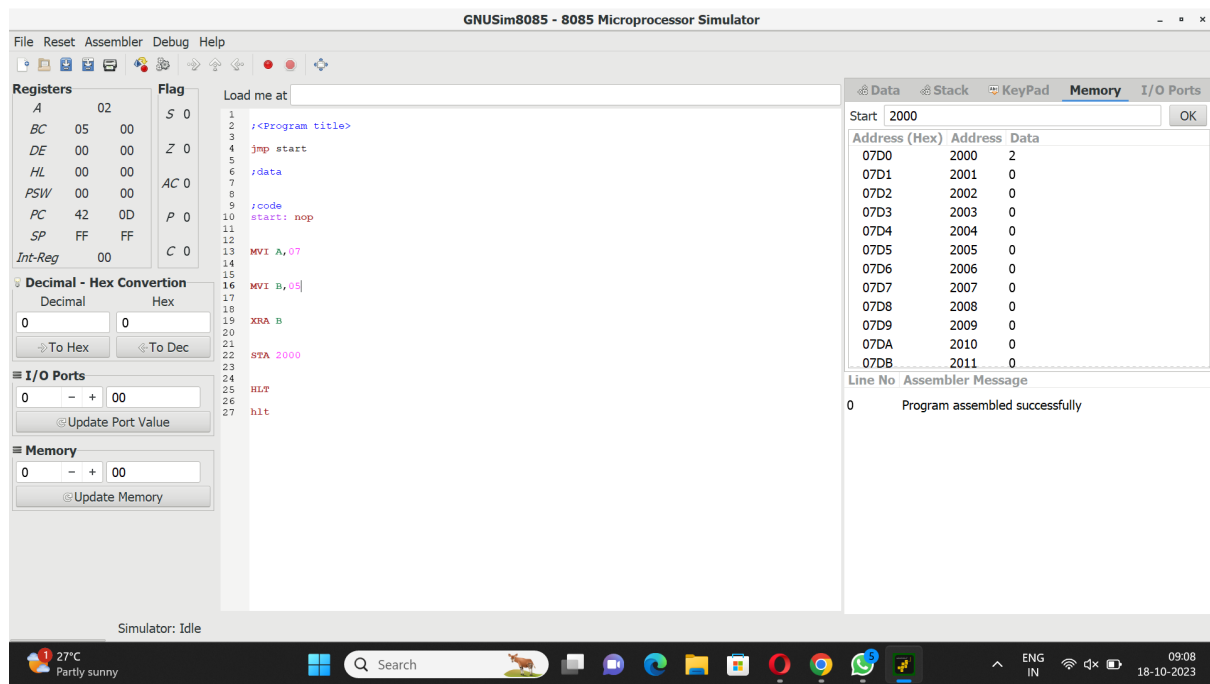
ENG

IN

09:04

18-10-2023

X OR OPERATION



**RESULT:** Thus the program was executed successfully using 8085 processor simulator.