

LOGICAL OPERATIONS

EXP NO: 20

AIM: To compute various logical operations using the 8085 processor.

ALGORITHM:

- 1) Load data to the 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 a 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
```

XOR OPERATION:

```
MVI A, 03
MVI B, 08
```

OUTPUT:

AND OPERATION:

GNUSim8085 - 8085 Microprocessor Simulator

File Reset Assembler Debug Help

Registers

Register	Value
A	06
BC	04 00
DE	00 00
HL	00 00
PSW	00 00
PC	42 0D
SP	FF FF
Int-Reg	00

Flag

Flag	Value
S	0
Z	0
AC	1
P	0
C	0

Load me at

```
1 ;<Program title>
2
3
4 jmp start
5
6 ;data
7
8
9 ;code
10 start: pop
11 MVI A, 06
12 MVI B, 04
13 ANA B
14 STA 2500
15 hlt
```

Decimal - Hex Conversion

Decimal: 0 Hex: 0

To Hex To Dec

I/O Ports

0 - + 00

Update Port Value

Memory

0 - + 00

Update Memory

Start 2500

Address (Hex)	Address	Data
09C4	2500	04
09C5	2501	0
09C6	2502	0
09C7	2503	0
09C8	2504	0
09C9	2505	0
09CA	2506	0
09CB	2507	0
09CC	2508	0
09CD	2509	0
09CE	2510	0
09CF	2511	0
09D0	2512	0
09D1	2513	0

Line No. Assembler Message

0 Program assembled successfully

Simulator: Idle

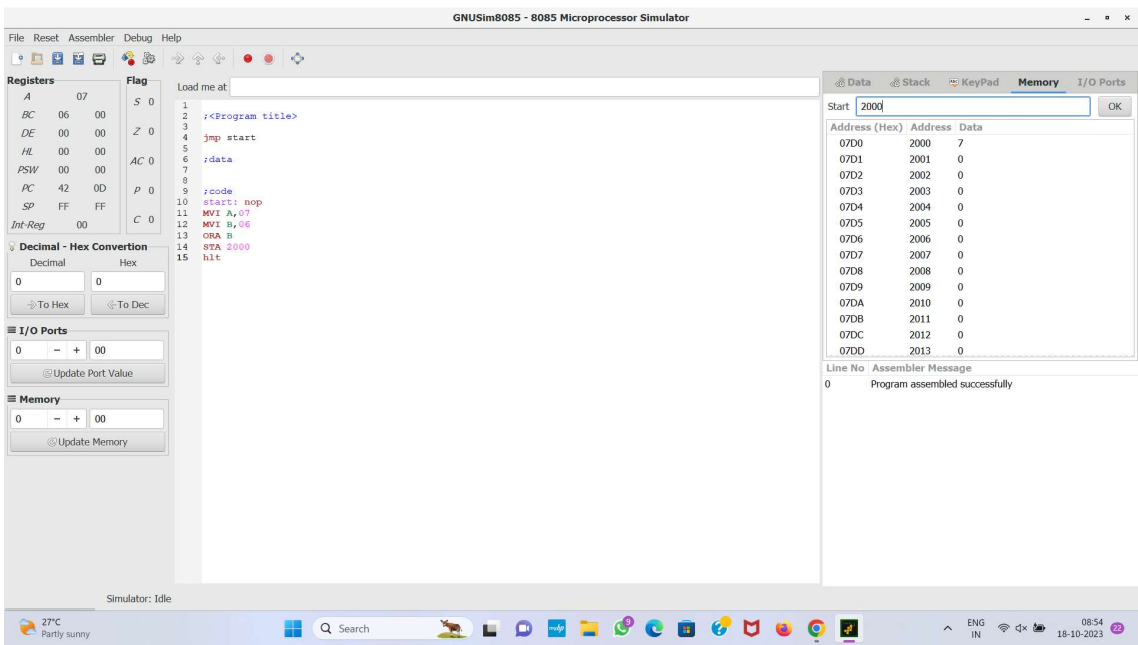
27°C Partly sunny

Search

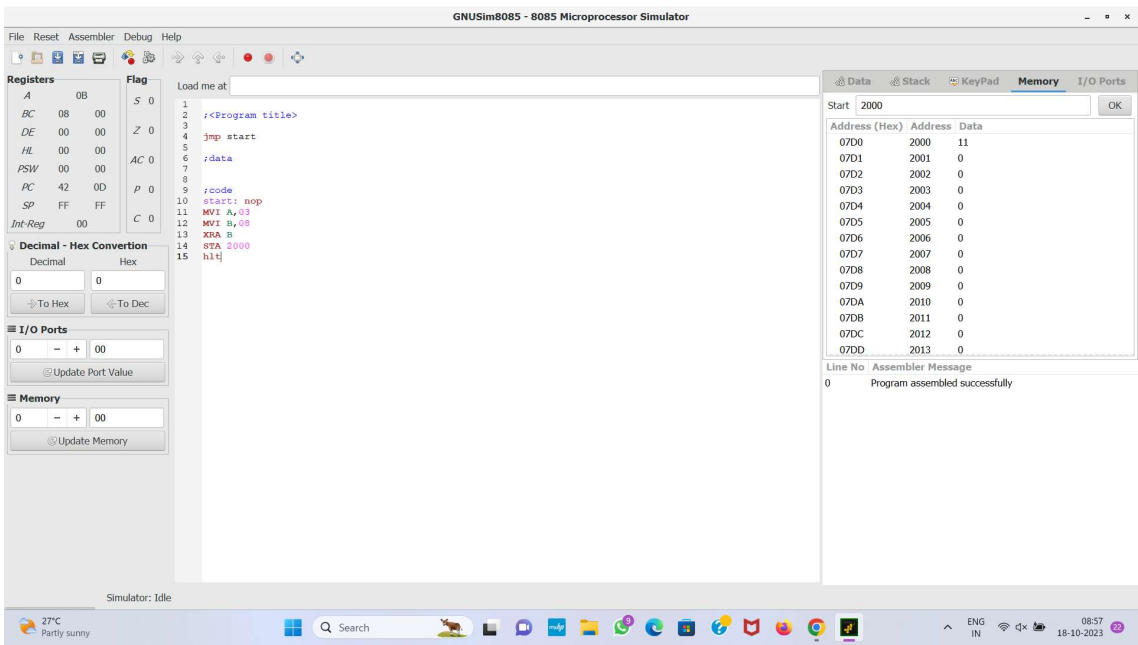
ENG IN

08:52 18-10-2023

OR OPERATION:



XOR OPERATION:



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