**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

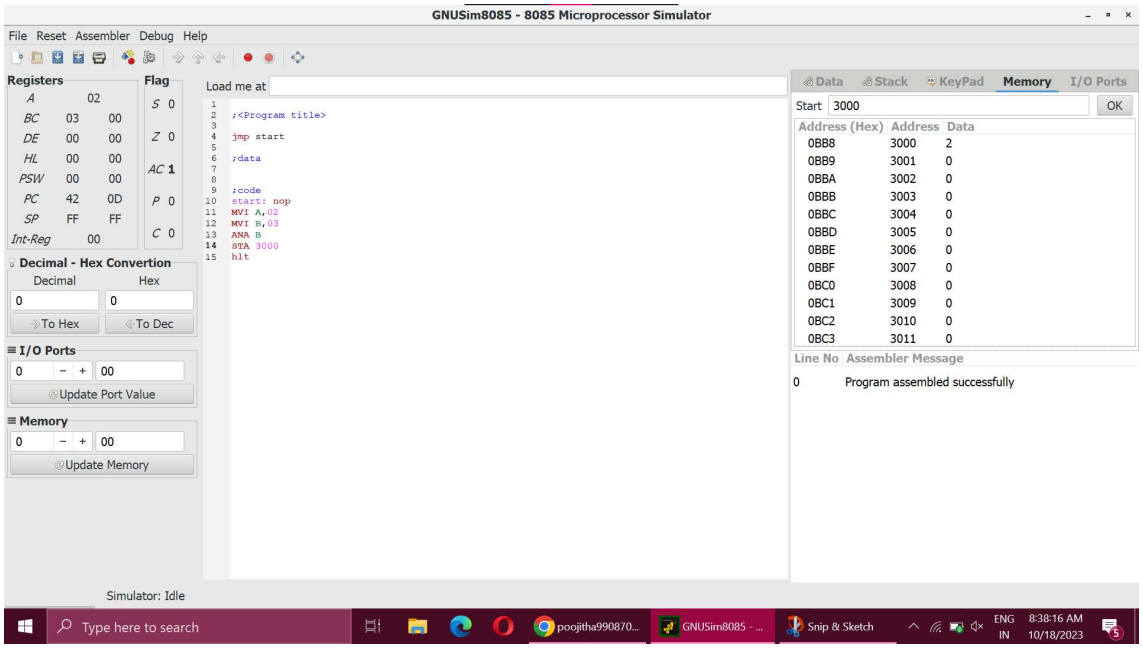
XRA
B

STA
2000

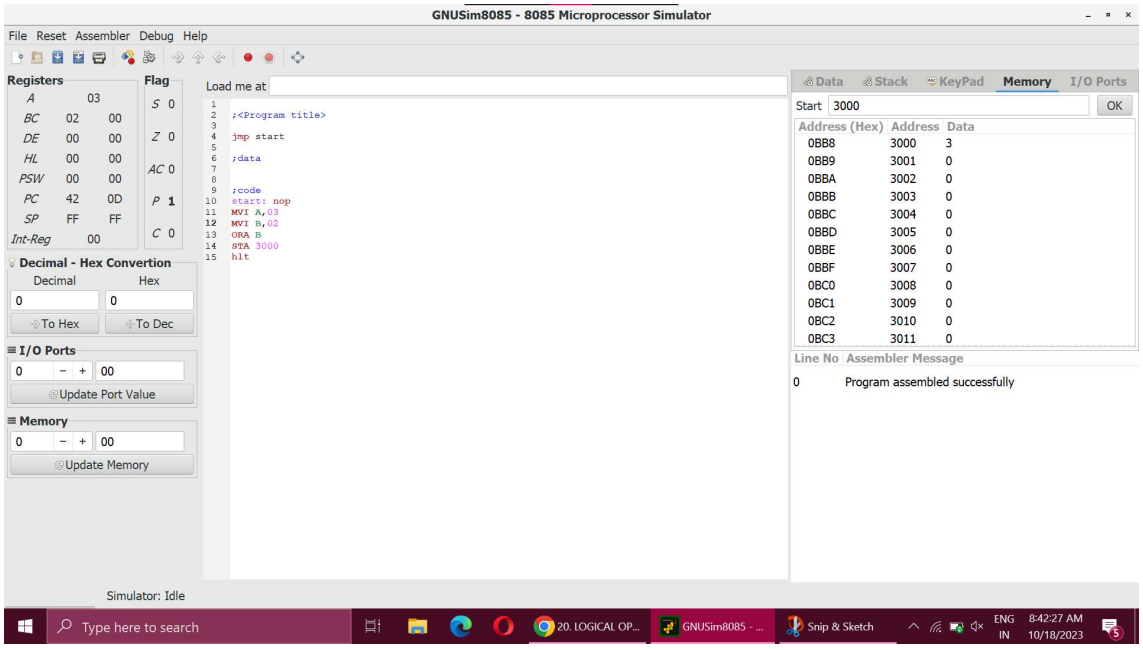
HLT

**INPUT:**

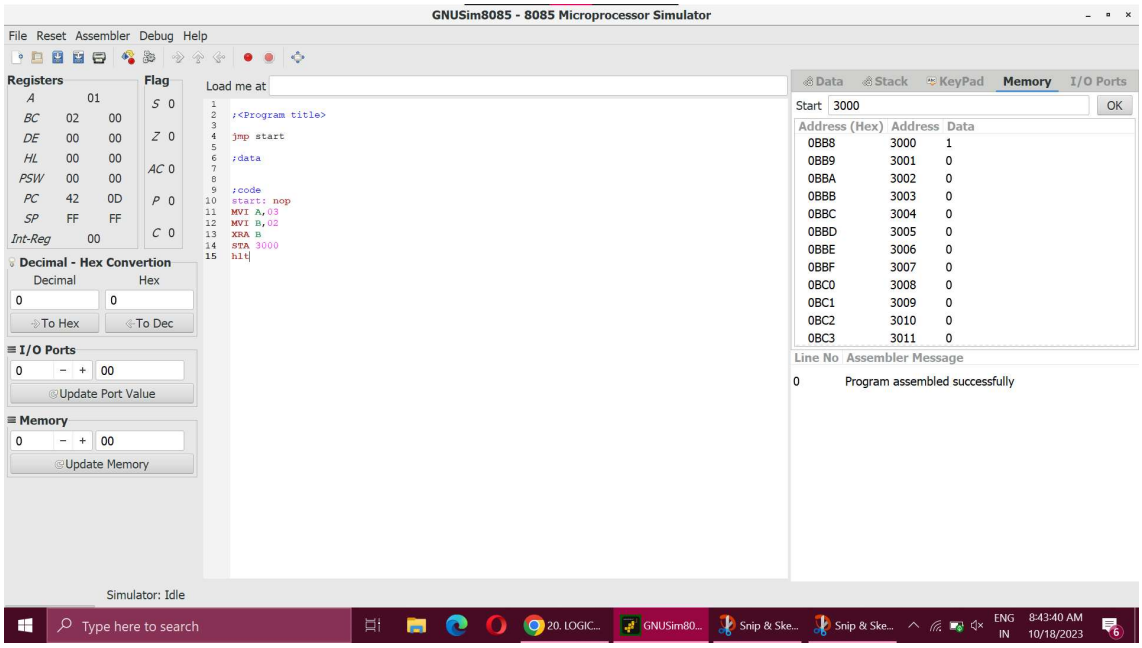
AND OPERATION:




OR OPERATION:



## XOR OPERATION:

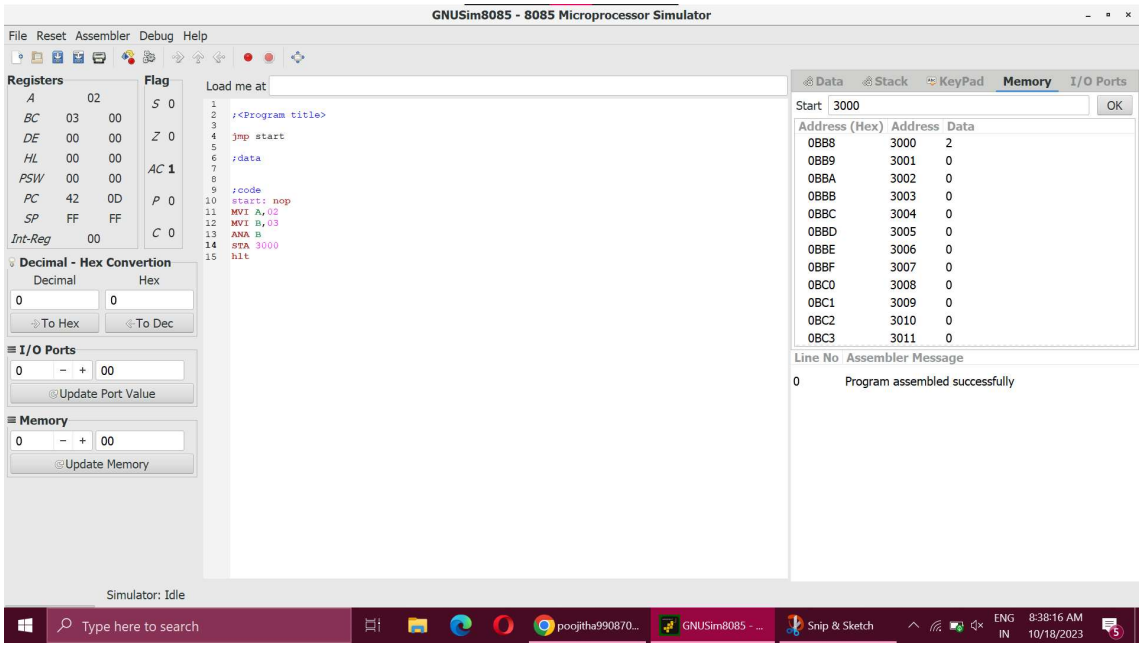



```
;<Program title>

jmp start

;data


;code
start: nop
MVI A,03
MVI B,02
XRA B
STA 3000
hlt
```

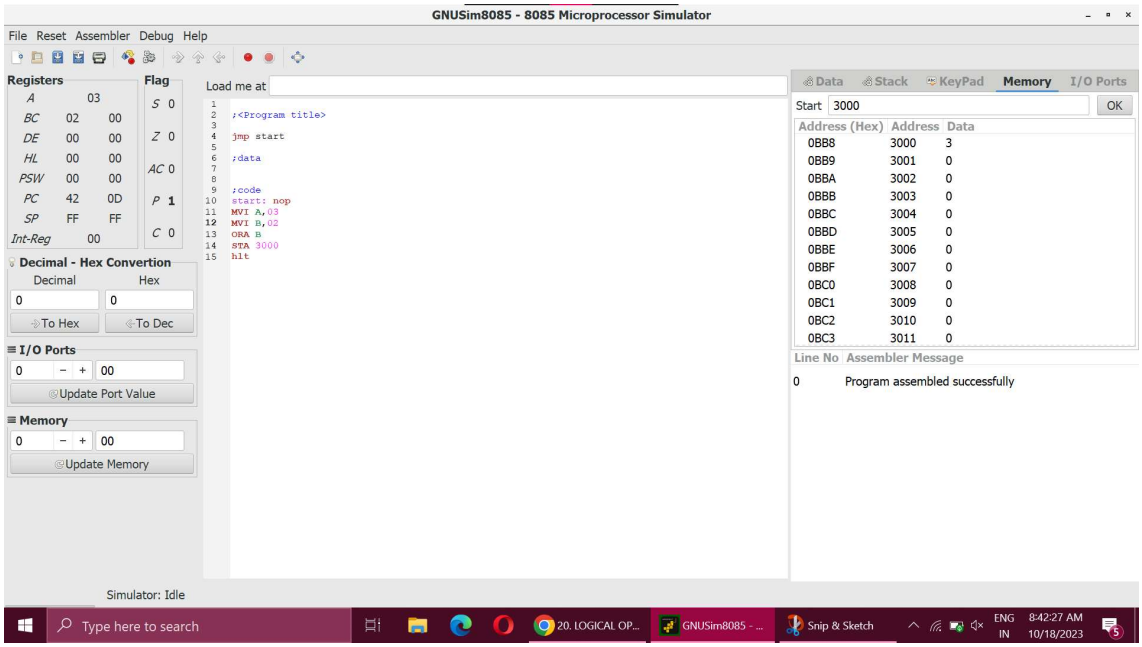
| Address (Hex) | Address | Data |
|---|---|---|
| 0BB8 | 3000 | 1 |
| 0BB9 | 3001 | 0 |
| 0BBA | 3002 | 0 |
| 0BBB | 3003 | 0 |
| 0BBC | 3004 | 0 |
| 0BBD | 3005 | 0 |
| 0BBE | 3006 | 0 |
| 0BBF | 3007 | 0 |
| 0BC0 | 3008 | 0 |
| 0BC1 | 3009 | 0 |
| 0BC2 | 3010 | 0 |
| 0BC3 | 3011 | 0 |

## OUTPUT:

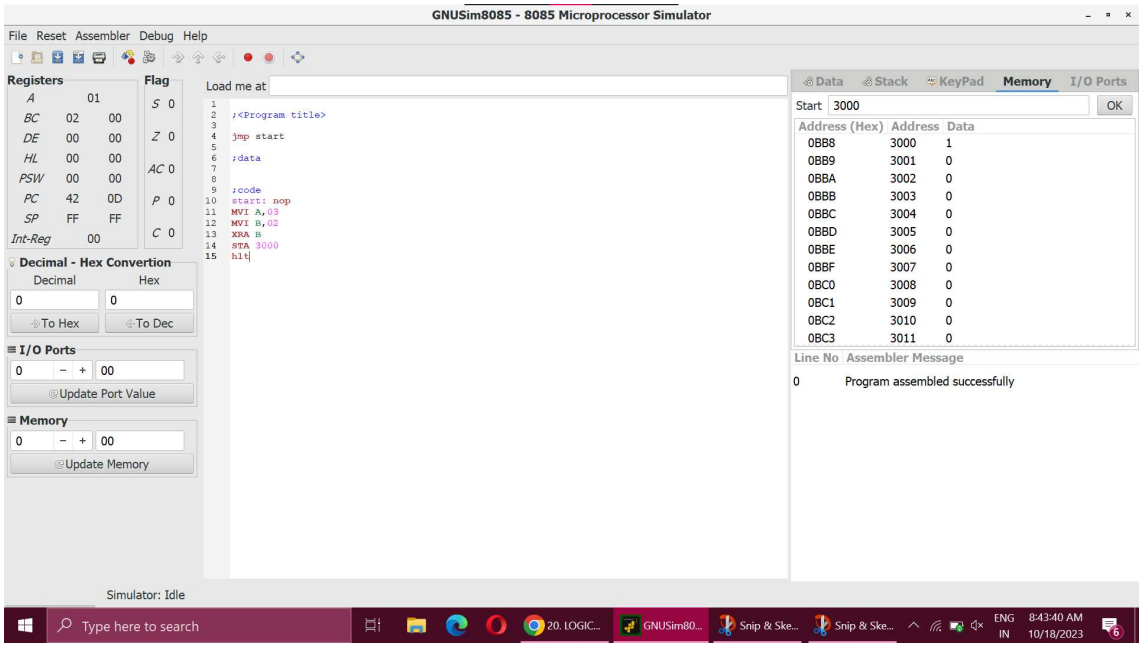
## AND OPERATION:




## OR OPERATION:




XOR OPERATION:


GNUSim8085 - 8085 Microprocessor Simulator
File Reset Assembler Debug Help
Registers
A 01
BC 02 00
DE 00 00
HL 00 00
PSW 00 00
PC 42 0D
SP FF FF
Int-Reg 00
Flag
S 0
Z 0
AC 0
P 0
C 0
Decimal - Hex Convertion
Decimal
Hex
To Hex
To Dec
I/O Ports
Update Port Value
Memory
Update Memory
Load me at
;<Program title>
jmp start
;data
;code
start: nop
MVI A,03
MVI B,02
XRA B
STA 3000
hlt
Data Stack KeyPad Memory I/O Ports
Start 3000
OK
Address (Hex) Address Data
0BB8 3000 1
0BB9 3001 0
0BBA 3002 0
0BBB 3003 0
0BBC 3004 0
0BBD 3005 0
0BBE 3006 0
0BBF 3007 0
0BC0 3008 0
0BC1 3009 0
0BC2 3010 0
0BC3 3011 0
Line No Assembler Message
0 Program assembled successfully
Simulator: Idle
Type here to search
20. LOGIC...
GNUSim80...
Snip & Ske...
Snip & Ske...
ENG
IN
8:43:40 AM
10/18/2023

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