16-BIT
MULTIPLICATION

EXP NO: 7

AIM:
To write an assembly language program to
implement 16-bit multiplication using 8085 processor.

ALGORITHM:

1) Load
the first data in HL pair.

2) Move
content of HL pair to stack pointer.

3) Load
the second data in HL pair and move it to DE.

4) Make
H register as 00H and L register as 00H.

5) ADD
HL pair and stack pointer.

6) Check
for carry if carry increment it by 1 else move to next step.

7) Then
move E to A and perform OR operation with accumulator and register D.

8) The value of operation is zero, then store the value else go to step 3.

PROGRAM:

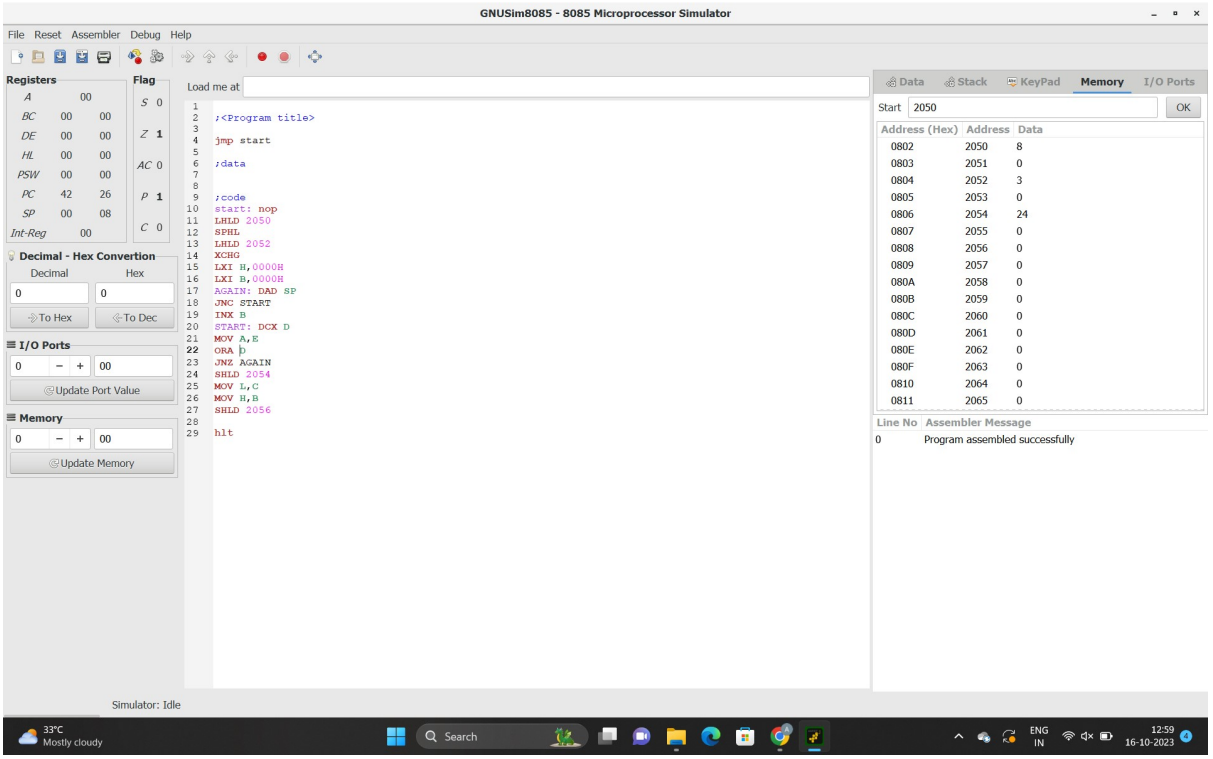
```
        LHLD 2050

        SPHL

        LHLD 2052

        XCHG

        LXI H,0000H

        LXI B,0000H

AGAIN: DAD SP

        JNC START

        INX B

      START: DCX D
```

```
        MOV
A,E

        ORA D

        JNZ
AGAIN

        SHLD
2054

        MOV
L,C

        MOV
H,B

        SHLD
2056

        HLT
```

INPUT:

0802	2050	8
0803	2051	0
0804	2052	3
0805	2053	0

OUTPUT:



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