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 the HL pair.
2) Move the content of the HL pair to the stack pointer.
3) Load the second data in the 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

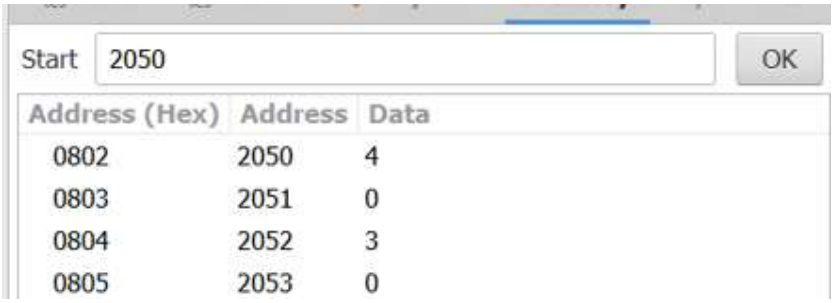
MOV L,C

MOV H,B

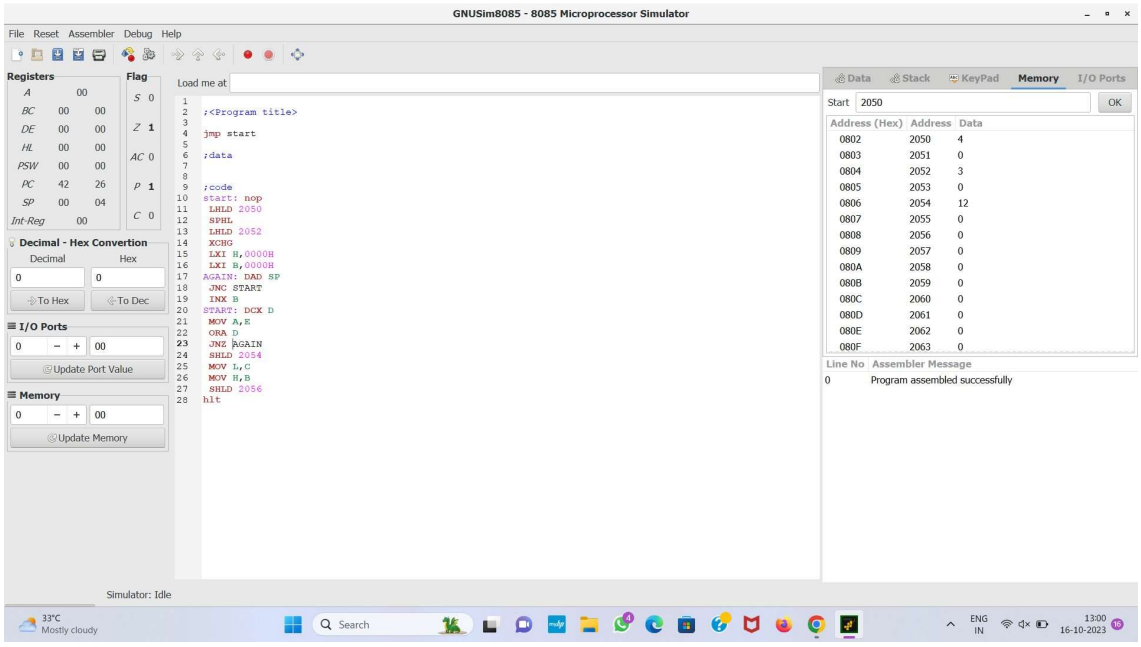
SHLD 2056

HLT

INPUT:



OUTPUT:



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