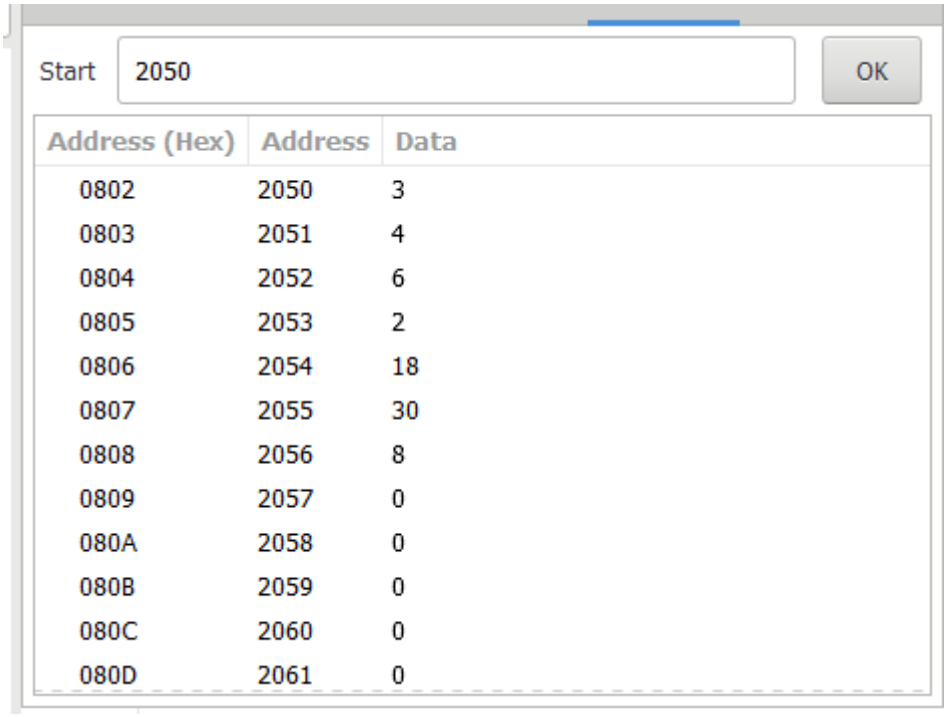
16-BIT MULTIPLICATION
EXP NO: 7
AIM: To write an assembly language program to implement 16-bit multiplication using 8085 processor.

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:

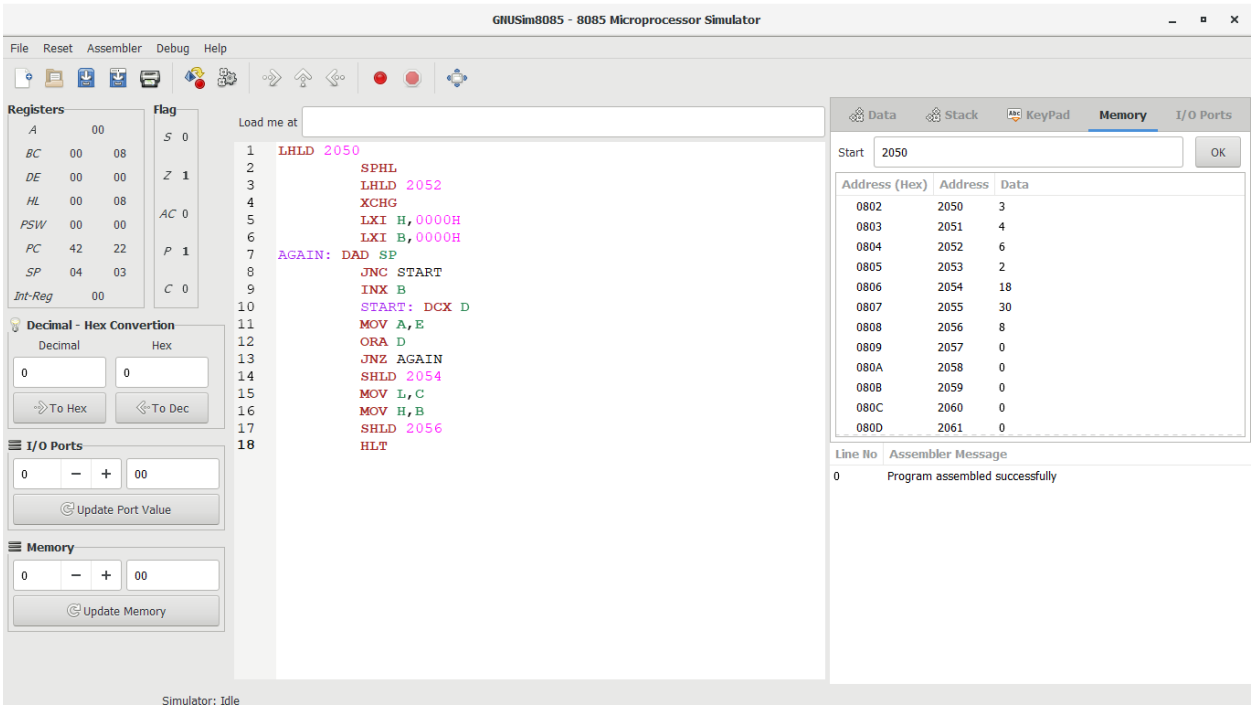
```
        LHLD 2050
        SPHL
        LHLD 2052
        XCHG
        LXI H,0000H
        LXI B,0000H
AGAIN: DAD SP
        JNC START
        INX B
        START: DCX D
        MOV A,E
        ORA D
        JNZ AGAIN
        SHLD 2054
        MOV L,C
        MOV H,B
        SHLD 2056
        HLT
```

INPUT & OUTPUT:



Start 2050 OK

Address (Hex)	Address	Data
0802	2050	3
0803	2051	4
0804	2052	6
0805	2053	2
0806	2054	18
0807	2055	30
0808	2056	8
0809	2057	0
080A	2058	0
080B	2059	0
080C	2060	0
080D	2061	0



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