

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 2055
HLT
```

INPUT:



Address (MB)	Address	Data
0002	2000	0
0003	2001	0
0004	2002	2
0005	2003	0
0006	2004	0
0007	2005	0
0008	2006	0
0009	2007	0
000A	2008	0
000B	2009	0
000C	2010	0
000D	2011	0
000E	2012	0

Use the [Accessibility](#) Manager

0 Program assigned accessibility

OUTPUT:

The screenshot shows the WinBox debugger interface. The 'Registers' window is open, displaying a list of registers with their names, values, and comments. The 'Registers' window is titled 'CPU Registers' and shows a table of registers. The 'Registers' window is titled 'CPU Registers' and shows a table of registers.

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