

16-BIT SUBTRACTION

EXP NO: 6

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

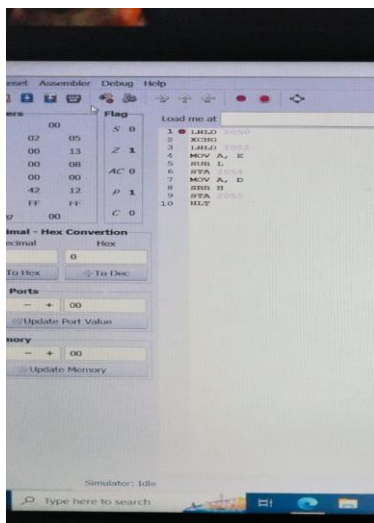
ALGORITHM:

- 1) Start the program by loading a register pair with address of 1st number.
- 2) Copy the data to another register pair.
- 3) Load the second number to first register pair.
- 4) Subtract the two register pair contents.
- 5) Check for borrow.
- 6) Store the value of difference and borrow in memory locations.
- 7) End.

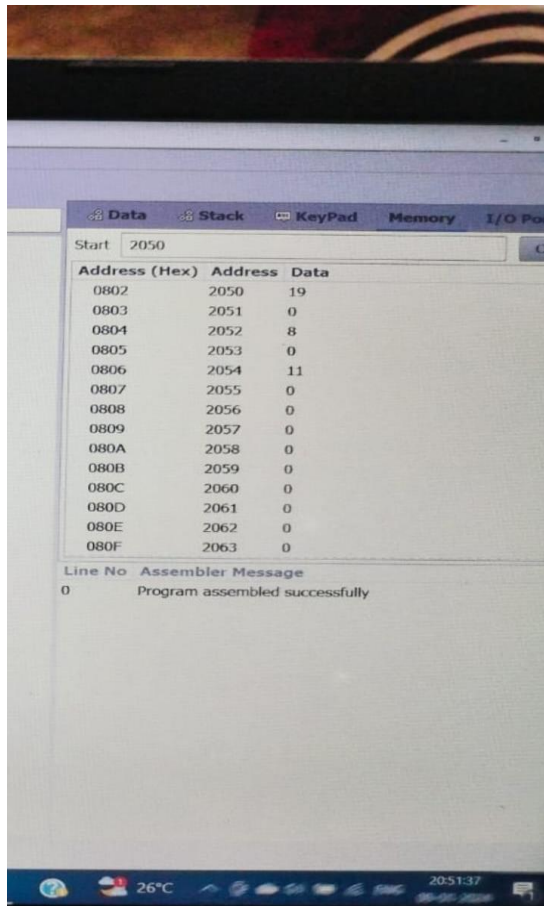
PROGRAM:

```
LHLD 2050
XCHG
LHLD 2052
MVI C,00
MOV A, E
SUB L
STA 2054
MOV A, D
SUB H
STA 2055
HLT
```

INPUT:



OUTPUT:



The screenshot displays the memory window of an 8085 processor simulator. The 'Start' address is set to 2050. The memory table shows addresses from 0802 to 080F in hexadecimal, with corresponding addresses in decimal (2050 to 2063) and data values. The data values are: 19, 0, 8, 0, 11, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0. Below the memory table, the assembler message window shows 'Line No 0' and the message 'Program assembled successfully'. The Windows taskbar at the bottom indicates a temperature of 26°C and a time of 20:51:37.

Address (Hex)	Address	Data
0802	2050	19
0803	2051	0
0804	2052	8
0805	2053	0
0806	2054	11
0807	2055	0
0808	2056	0
0809	2057	0
080A	2058	0
080B	2059	0
080C	2060	0
080D	2061	0
080E	2062	0
080F	2063	0

Line No	Assembler Message
0	Program assembled successfully

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