

8-BIT SUBTRACTION

EXP NO: 2

AIM: To write an assembly language program to implement 8-bit subtraction using 8085 processor.

ALGORITHM:

- 1) Start the program by loading the first data into the accumulator.
- 2) Move the data to a register.
- 3) Get the second data and load it into the accumulator.
- 4) Subtract the two register contents.
- 5) Check for borrow.
- 6) Store the difference and borrow in the memory location.
- 7) Halt.

PROGRAM:

```
LDA 8000
MOV B, A
LDA 8001
SUB B
STA 8002
RST 1
```

INPUT:

Data
Stack
KeyPad
Memory
I/O Ports

Start
8500
OK

Address (Hex)	Address	Data
2134	8500	2
2135	8501	4
2136	8502	2
2137	8503	0
2138	8504	0
2139	8505	0
213A	8506	0
213B	8507	0
213C	8508	0
213D	8509	0
213E	8510	0
213F	8511	0
2140	8512	0
2141	8513	0
2142	8514	0

Line No
Assembler Message

0
Program assembled successfully

OUTPUT:

File
Reset
Assembler
Debug
Help

Registers
Flag

A
02
02
00
BC
02
00
DE
00
00
HL
00
00
PSW
00
00
PC
42
0C
SP
FF
FF
Int-Reg
00

S
0
Z
0
AC
0
P
0
C
0

Decimal - Hex Conversion

I/O Ports

Memory

Load me at:

```

1 LDA 8500
2 MOV D,A
3 LDA 8501
4 SUB B
5 STA 8502
6 RLC

```

Data
Stack
KeyPad
Memory
I/O Ports

Start
8500
OK

Address (Hex)	Address	Data
2134	8500	2
2135	8501	4
2136	8502	2
2137	8503	0
2138	8504	0
2139	8505	0
213A	8506	0
213B	8507	0
213C	8508	0
213D	8509	0
213E	8510	0
213F	8511	0
2140	8512	0
2141	8513	0
2142	8514	0

Line No
Assembler Message

0
Program assembled successfully

Simulator: Idle

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