

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:

15,99

OUTPUT:

The screenshot displays the 8085 processor simulator interface. The main window shows the following components:

- Registers:** A table showing the state of various registers. The Accumulator (A) contains the value 54. Other registers like BC, DE, HL, PSW, PC, SP, and Int-Reg are shown with their respective values.
- Flag:** A section showing the status of various flags (S, Z, AC, P, C) with their current values.
- Assembly Code:** A list of instructions being executed, including LDA 8000, MOV B, A, LDA 8001, SUB B, STA 8002, and RST 1.
- Memory:** A table showing the contents of memory locations from 1F40 to 1F4D. The data values are 15, 99, 84, and 0 for the first four locations, and 0 for the remaining locations.
- I/O Ports:** A section for monitoring and controlling I/O ports, showing values for Port 0 and Port 1.
- Message Log:** A section at the bottom showing the assembler message: "Program assembled successfully".

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