

## **ONEs AND TWOs COMPLEMENT**

**EXP NO: 17**

**AIM:** To compute one's and two's complement using 8085 processor.

### **ALGORITHM:**

- 1) Load the base address of the array in a register pair.
- 2) Move the data from memory location into accumulator.
- 3) Convert all ones into zeros and zeros into ones.
- 4) Add 01 to the accumulator content.
- 5) Store the results of one's and two's complement.

### **PROGRAM:**

```
LDA 3000
CMA
STA 3001
ADI 01
STA 3002
HLT
```

### **INPUT:**

## OUTPUT:

The screenshot displays the 8085 processor simulator interface. The main window is divided into several sections:

- Registers:** A table showing the status of various registers. The **Flag** section shows **S** (Sign) set to 1, while other flags (**Z**, **AC**, **P**, **C**) are 0.
- Decimal - Hex Conversion:** A section for converting between decimal and hexadecimal values. Both fields currently show 0.
- I/O Ports:** A section for interacting with I/O ports. The port value is 0, and the **Update Port Value** button is visible.
- Memory:** A section for managing memory. The memory address is 0, and the **Update Memory** button is visible.
- Assembly Code:** A list of instructions being executed:
  - 1 LDA 3000
  - 2 CMA
  - 3 STA 3001
  - 4 ADI 01
  - 5 STA 3002
  - 6 HLT
  - 7
- Memory Dump:** A table showing the contents of memory locations from 0BB8 to 0BC5:

Address (Hex)	Address	Data
0BB8	3000	8
0BB9	3001	247
0BBA	3002	248
0BBB	3003	0
0BBC	3004	0
0BBD	3005	0
0BBE	3006	0
0BBF	3007	0
0BC0	3008	0
0BC1	3009	0
0BC2	3010	0
0BC3	3011	0
0BC4	3012	0
0BC5	3013	0
- Assembler Message:** A log showing the message: "Program assembled successfully".

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