

## **8-BIT ADDITION**

**EXP NO: 1**

### **AIM:**

To  
write an assembly language program to implement 8-bit addition 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) Add  
the two register contents.
- 5) Check  
for carry.
- 6) Store  
the value of sum and carry in the memory location.

7) Halt.

**PROGRAM:**

LDA 8500

MOV B, A

LDA 8501

ADD B

STA 8502

RST 1

**INPUT:**

Address (Hex)	Address	Data
2134	8500	20
2135	8501	10

## OUTPUT:

The screenshot displays the GNUSim8085 - 8085 Microprocessor Simulator interface. The main window is titled "GNUSim8085 - 8085 Microprocessor Simulator". The interface includes a menu bar (File, Reset, Assembler, Debug, Help) and a toolbar with various icons. The central area shows assembly code being loaded, with a "Load me at" field set to 8500. The code includes comments like ";<Program title>", "jmp start", and "start: nop", along with instructions like "LDA 8500", "MOV B,A", "LDA 8501", "ADD B", "STA 8502", "RST 1", and "hlt".

On the left, the "Registers" panel shows the status of various registers (A, BC, DE, HL, PSW, PC, SP, Int-Reg) and flags (S, Z, AC, P, C). Below this is a "Decimal - Hex Conversion" section with input fields for decimal and hex values and buttons for conversion. Further down are "I/O Ports" and "Memory" sections, each with input fields and an "Update" button.

On the right, the "Memory" panel is active, showing a table of memory addresses (hex) and their corresponding data. The table starts at address 2134 and ends at 213F. The data values are 8500, 8501, 8502, 8503, 8504, 8505, 8506, 8507, 8508, 8509, 8510, and 8511. Below the table, a "Line No Assembler Message" section shows a message: "0 Program assembled successfully".

The bottom status bar indicates the simulator is "Idle". The Windows taskbar at the very bottom shows the system clock as 12:26 on 16-10-2023, along with various system icons and a search bar.

## RESULT:

Thus the program was executed successfully using 8085 processor simulator.