

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:

23,29

OUTPUT:

The screenshot displays the 8085 processor simulator interface. The top menu bar includes File, Reset, Assembler, Debug, and Help. The main window is divided into several sections:

- Registers:** A table showing the current values of 8085 registers.

Register	Value
A	34
BC	17 00
DE	00 00
HL	00 00
PSW	00 00
PC	42 0C
SP	FF FF
Int-Reg	00
- Flag:** A table showing the status of 8085 flags.

Flag	Value
S	0
Z	0
AC	1
P	0
C	0
- Assembly Code:** A list of instructions being executed.


```

      1 LDA 8500
      2 MOV B, A
      3 LDA 8501
      4 ADD B
      5 STA 8502
      6 RST 1
      
```
- Memory:** A table showing the memory dump starting from address 8500.

Address (Hex)	Address	Data
2134	8500	23
2135	8501	29
2136	8502	52
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
- Assembler Message:** A message box at the bottom right stating "Program assembled successfully".

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