

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	23
2135	8501	34
2136	8502	57
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

OUTPUT:

GNUsim8085 - 8085 Microprocessor Simulator

File Reset Assembler Debug Help

Registers

Register	Value	Flag	Value
A	39	S	0
BC	17 00	Z	0
DE	00 00	AC	0
HL	00 00	P	1
PSW	00 00	C	0
PC	42 0C		
SP	FF FF		
Int-Reg	00		

Decimal - Hex Conversion

Decimal	Hex
21	0

I/O Ports

0 - + 00

Update Port Value

Memory

0 - + 00

Update Memory

Load me at A

```

1 LDA 8500
2 MOV B, A
3 LDA 8501
4 ADD B
5 STA 8502
6 HLT

```

Start 8500 OK

Address (Hex)	Address	Data
2134	8500	23
2135	8501	34
2136	8502	57
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

Line No Assembler Message

0 Program assembled successfully

Simulator: Idle

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