

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:

The screenshot shows the 'Memory' window of an 8085 Assembler. The 'Start' address is set to 8500. The memory table displays the following data:

Address (Hex)	Address	Data
2134	8500	4
2135	8501	3
2136	8502	7
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

Below the memory table, the 'Assembler Message' window shows the following output:

```
Line No Assembler Message
0 Program assembled successfully
```

OUTPUT:

Registers

A	07
BC	04 00
DE	00 00
HL	00 00
PSW	00 00
PC	42 0C
SP	FF FF
Int-Reg	00

Flag

S	0
Z	0
AC	0
P	0
C	0

Decimal - Hex Conversion

Decimal

Hex

0

0

To Hex

To Dec

I/O Ports

0

-

+

00

Update Port Value

Memory

0

-

+

00

Update Memory

Load me at

1

LDA 8500

2

MOV B, A

3

LDA 8501

4

ADD B

5

STA 8502

6

RST 1

7

Start

8500

OK

Address (Hex)	Address	Data
2134	8500	4
2135	8501	3
2136	8502	7
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

Line No

Assembler Message

0

Program assembled successfully

Simulator: Idle

33°

ENG IN

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