

16-BIT ADDITION

EXP NO: 5

AIM: To write an assembly language program to implement 16-bit addition using 8085 processor.

ALGORITHM:

- 1) Start the program by loading a register pair with address of 1st number.
- 2) Copy the data to another register pair.
- 3) Load the second number to the first register pair.
- 4) Add the two register pair contents.
- 5) Store the result in memory locations.
- 6) Terminate the program.

PROGRAM:

```
LHLD 2500  
XCHG  
LHLD 2502  
DAD D  
SHLD 2504  
HLT
```

INPUT & OUTPUT

Start	2500	OK
Address (Hex)	Address	Data
09C4	2500	24
09C5	2501	0
09C6	2502	24
09C7	2503	0
09C8	2504	48
09C9	2505	0
09CA	2506	0
09CB	2507	0
09CC	2508	0
09CD	2509	0
09CE	2510	0
09CF	2511	0

GNUSim8085 - 8085 Microprocessor Simulator

File Reset Assembler Debug Help

Registers

A	01
BC	22 01
DE	00 18
HL	00 30
PSW	00 00
PC	42 0C
SP	FF FF
Int-Reg	00

Flag

S	1
Z	0
AC	0
P	1
C	0

Load me at

```

1  LHLD 2500
2  XCHG
3  LHLD 2502
4  DAD D
5  SHLD 2504
6  HLT

```

Memory

Start

Address (Hex)	Address	Data
09C4	2500	24
09C5	2501	0
09C6	2502	24
09C7	2503	0
09C8	2504	48
09C9	2505	0
09CA	2506	0
09CB	2507	0
09CC	2508	0
09CD	2509	0
09CE	2510	0
09CF	2511	0

I/O Ports

Memory

Assembler Message

0 Program assembled successfully

Simulator: Idle

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