

8-BIT MULTIPLICATION

EXP NO: 3

AIM: To write an assembly language program to implement 8-bit multiplication using 8085 processor.

ALGORITHM:

- 1) Start the program by loading a register pair with the address of memory location.
- 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) Increment the value of the carry.
- 6) Check whether the repeated addition is over.
- 7) Store the value of product and the carry in the memory location.
- 8) Halt.

PROGRAM:

```
LDA 8500
MOV B, A
LDA 8001
MOV C, A
CPI 00
JZ LOOP
XRA A
LOOP1: ADD E
DCR C
JZ LOOP
JMP LOOP1
LOOP: STA 8002
RST 1
```

INPUT:

Line No	Assembler Message	
ST4T	8213	0
ST40	8215	0
ST3E	821T	0
ST3E	8210	0
ST3D	8200	0
ST3C	8208	0
ST3B	820A	0
ST3A	820E	0
ST30	8202	0
ST38	8204	0
ST3A	8203	0
ST30	8205	1
ST32	8201	4
ST34	8200	2

Address (Hex)	Address	Data
Start	8200	

DATA

STACK

KEYPAD

MEMORY

I/O PORTS

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