

## **SQUARE OF NUMBER**

**EXP NO: 16**

### **AIM:**

To compute square of number using 8085 processor.

### **ALGORITHM:**

- 1) Load the base address of the array in HL register pair.
- 2) Assign accumulator as 0.
- 3) Load the content of memory location specified into register.
- 4) Add content of memory location with accumulator and decrement register content by 01.
- 5) Check if register holds 00, if so store the value of accumulator in memory location.

**PROGRAM:**

LXI  
H,8000

XRA  
A

MOV  
B,M

LOOP:  
ADD M

DCR  
B

JNZ  
LOOP

STA  
8001

HLT

**INPUT:**

Data
Stack
KeyPad
**Memory**
I/O Ports

Start

Address (Hex)	Address	Data
0BB8	3000	4

OUTPUT:

File

Reset

Assembler

Debug

Help

Registers

A

10

BC

00

00

DE

00

00

HL

0B

B8

PSW

00

00

PC

42

12

SP

FF

FF

Int-Reg

00

Flag

S

0

Z

1

AC

0

P

1

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

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

<Program title>

jmp start

rdata

rcode

start: nop

LXI B, 3000

XRA A

MOV B,M

LOOP: ADD M

DCR B

JNZ LOOP

STA 3002

HLT

Start

3000

OK

Address (Hex)

Address

Data

0BB8

3000

4

0BB9

3001

16

0BBA

3002

0

0BBB

3003

0

0BBC

3004

0

0BBD

3005

0

0BBE

3006

0

0BBF

3007

0

0BC0

3008

0

0BC1

3009

0

0BC2

3010

0

0BC3

3011

0

Line No

Assembler Message

0

Program assembled successfully

Simulator: Idle

Windows

Type here to search

Taskbar

GNUSim8085 - ...

poojitha990870...

Snip & Sketch

ENG

12:14:37 PM

10/11/2023

**RESULT:**

Thus the program was executed successfully using 8085 processor simulator.