

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:

Start

8000

Address (Hex)	Address	Data
1F40	8000	4

OUTPUT:

File

Reset

Assembler

Debug

Help

Registers

A

10

BC

00 00

DE

00 00

HL

1F 40

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

,<Program title>

jmp start

;data

;code

start: nop

lxi H,8000

xra A

mov B,M

LOOP: add M

dcr B

jnz LOOP

sta 8001

hlt

Data

Stack

Keypad

Memory

I/O Ports

Start

8000

OK

Address (Hex)	Address	Data
1F40	8000	4
1F41	8001	16
1F42	8002	0
1F43	8003	0
1F44	8004	0
1F45	8005	0
1F46	8006	0
1F47	8007	0
1F48	8008	0
1F49	8009	0
1F4A	8010	0
1F4B	8011	0
1F4C	8012	0
1F4D	8013	0

Line No

Assembler Message

0

Program assembled successfully

Simulator: Idle

27°C

Mostly cloudy

Search

ENG

IN

10:44 AM

17-10-2023

RESULT:

Thus the program was executed successfully using 8085 processor simulator.