

Cube of a Number using 8051

Expt No: 13

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Name: Shivanirudh S G

Reg No: 185001146

Aim:

To find the cube of a number using **8051 microcontroller**.

Algorithm:

- Move hex value 00 to register 0.
- Move the value of register 1 to A and B.
- Multiply A and B using MUL AB to get A^2 .
- Move value of register 1 to B and again perform MUL AB to get A^3 .
- The higher and lower bits stored in B and A should be moved to R4 and R5 respectively.

Program:

Program	Comments
mov r0, #00	Move hex value 00 to Register 0
mov a, r1	Move value in Register 1 to A
mov b, r1	Move value in Register 1 to B
mul ab	A = A * B
mov b, r1	Move value in Register 1 to B
mul ab	A = A * B
mov r4, b	Move value of B into Register 4
mov r5, a	Move value of A into Register 5
here: sjmp here	Halt

Input and Output:

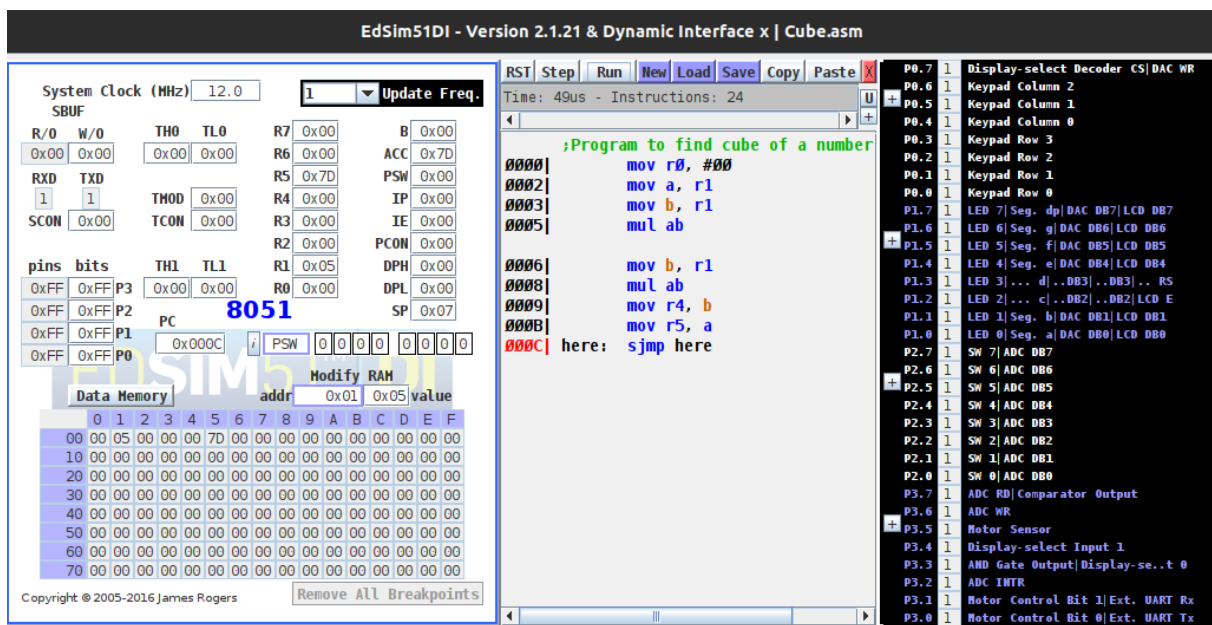


Figure 1: **Input:** r1: 05h; **Output:** Higher: 00h, Lower: 7Dh

Result:

The 8051 program to cube a number was written, and the results observed.