

## **ASSIGNMENT-1**

NAME: AGASTYA.V

ENROLLMENT.NO: 18116005

BATCH: ECE-O(4)

**Assignment:** Write a SimpleRisc assembly program to find the Ramanujan number, the smallest number that is a sum of two cubes in two different ways.

### **Answer:**

```
mov r0,0
mov r1,0
mov r5,0
mov r6,0
mov r7,0
mov r2,1
mov r3,1
mov r4,1
.i_loop:
    mov r5,0
    add r0,r0,1
    mov r1,0
    .i_loop:
        add r1,r1,1
        mul r3,r1,r1
        mul r3,r1,r3
        add r2,r1,1
        cmp r3,r0
        Bgt.i_loop1
    .m_loop:
        add r2,r2,1
        mul r4,r2,r2
        mul r4,r2,r4
        cmp r4,r0
        Bgt.m_loop
        add r6,r4,r3
        cmp r6,r0
        Beq.label1
    B.loop3
    .label1:
        add r5,r5,1
        cmp r5,2
        Beg. label2
    B.loop3
    .label2:
        mov r7,r0
```