

Assignment 2

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

Code:

```
mov r0,0
```

```
mov r1,0
```

```
mov r2,1
```

```
mov r3,1
```

```
mov r4,1
```

mov r5,0

mov r6,0

mov r7,0

.loop1:

mov r5,0

add r0,r0,1

mov r1,0

.loop2:

add r1,r1,1

mul r3,r1,r1

mul r3,r1,r3

add r2,r1,1

cmp r3,r0

bgt.loop1

.loop3:

add r2,r2,1

mul r4,r2,r2

mul r4,r2,r4

cmp r4,r0

bgt.loop2

add r6,r4,r3

cmp r6,r0

beq.label1

b.loop3

.label1:

add r5,r5,1

cmp r5,2

beq.label2

b.loop3

.label2:

mov r7,r0