CSN 221

Assignment 2

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Problem - 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.

```
mov r0, 1
mov r1, 0
mov r2, 0
mov r3, 0
loop1:
mov r1, r1+1
mul r7, r1, r1
mul r7, r7, r1
cmp r7, r0
mov r2, r1
blt .loop2
mov r0, r0+1
mov r1, 0
mov r2, 0
mov r3, 0
mul r6, r0, r0
mul r6, r6, r0
.loop1
loop2:
mov r2, r2+1
```

```
mul r4, r2, r2
mul r4, r4, r2
add r5, r7, r4
cmp r5, r6
beq .add_r3_1
cmp r3, 2
beq .print_r0
cmp r4, r0
blt .loop2
.loop1
add_r3_1:
add r3, r3+1;
```

Final output of the Ramanujan Number will be stored in r0