

ASSIGNMENT 2

CSN-221

COMPUTER ARCHITECTURE AND MICROPROCESSOR

Question. 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 cnt 0
mov i 1

.loop:
    mov j i
    mov k i
    .loop1:
        .loop2:
            mul r1 j i
            mul r2 r1 j
            mul r3 k k
            mul r4 r3 k
            mov r5 0
            add r5 r2 r4
            cmp r5 i
            beq .countIncrease
            sub k k 1
            cmp k 0
            bgt .loop2

        sub j j 0
        bgt .loop1

    cmp cnt 2
    bgt .exit
    add i i 1
    .cntIncrease:
        add cnt cnt 1
    .exit:
        exit
    mov cnt 0
```

SUBMITTED BY:

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BATCH-O2

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