# Assignment

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**Q- Design Assembly level algorithm to find the smallest Ramanujan Number**

**Ans**

```
mov r1,2
        loop1:
        mov r7,0
                mov r2,1
                .loop2:
                mul r4, r2, r2
                mul r4, r4, r2
                        mov r3, 1
                        .loop3:
                        mul r5, r3, r3
                        mul r5, r5, r3
                        add r6, r4, r5
                        comp r6, r1
                                beq .ifcond
                                cond:
                                comp 1, r7
                                bgt .exit
                        add r3, r3, 1
                        comp r1, r5
                        bgt .loop3
                add r2, r2, 1
                comp r1, r4
                bgt .loop2
        add r1, r1, 1
```

```
        b .loop1
exit:
ifcond:
add r7, r7, 1
b .cond
```