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Assignment 2
CSN-224

Q) Write a Simple Risc Program to find the smallest Ramonujan number

Program:-

mov r0, 2

.L1:

mov r3, 0

mov r1, 1

.L2:

add r2, r1, 1

mul r4, r1, r1

mul r4, r4, r1

.L3:

mul r5, r2, r2

mul r5, r5, r2

add r6, r4, r5

cmp r6, r0

bgt .foo2

.foo3:

add r2, r2, 1

mul r5, r2, r2

mul r5, r5, r2

cmp r0, r5

bgt ~~.foo3~~.L3

add r7, r0, 1

mul r4, r1, r1

mul r4, r4, r1

cmp r0, r4

bgt .L2

cmp r4, 2

bgt .foo1

add r0, r0, 1

b.L1

.foo1: exit

.foo2: add r3, r3, 1

b.L1

∴ Final result is
stored in R0