

Start

Initialize r0
Initialize r1

Initialize counter
(r2)

~~Initialize counter (r2)~~

LOOP:

Is r2 = r1

Save value in another
register (r3)

CMP r2 r1

~~BGE~~ MOD

No

Increment counter

ADD r2 r2 #1

Shift r0 to the right

MOV r4 r0

~~SUB r3 r3 #10~~
CMP

NO

Is r0 = 0

CMP r0 r4

~~BGE~~ LOOP

MOV r3 r1

MOV r4 #0

store results
r0 = r2
r1 = r3

MOD: SUB r3 r3 #10

CMP r3 r4

~~BGE~~ MOD

ADD r3 r3 #10

Stop

MOV r0 #37192

MOV r1 #3

MOV r2 #0

Subroutine modulo

MOV r3 r1

~~SUB r3 r3 #10~~

CMP

MOV r3 r1

MOV r4 #0

MOD: SUB r3 r3 #10

CMP r3 r4

~~BGE~~ MOD

ADD r3 r3 #10

LSR r0 #1