

```

mod:      subs r0, r1
          addmi r0, r1
          bpl mod
          mov pc, lr

```

```

isprime:  mov r1, #1
loop:     add r1, #1
          cmp r1, r2
          bge prime
          mov r0, r2
          bl mod
          cmp r0, #0
          beq notprime
          b loop

```

```

prime:    mov r2, #1
          b end

```

```

notprime: mov r2, #0
end:

```

```

findprime:
loop2:    mov r2, r3
          bl isprime
          cmp r0, #1
          beq foundit
          addne r3, #1
          bne loop2

```

```

foundit:  mov r0, r3

```

@ (compute the first prime larger than the value in r3, store in r0)

	N	Z	C	V	
cpsr					
r0					
r1					
r2					
r3	0x11				
r14(lr)					
r15(pc)	findprime				