This is an example of a recursive function.

```c
int sumN (int n)
{
    if (n == 0) return 0;
    return n + sumN (n - 1);
}
```

n is passed through the stack.
The return value is returned in d0

```
org $30000

main
  move.l #10, -(a7)  call sumN (10)
  bsr sumN
  add.l #4, a7       readjust stack
  trap  #15

org  $31000

sumN
  move.l 4(a7), d0
  cmp.l  #0, d0
  beq   DONE
  subq.l #1, d0
  move.l d0, -(a7)  push n -1 onto stack
  bsr   sumN        get d0 = sumN (n - 1)
  add.l #4, a7      adjust stack
  add.l 4(a7), d0   n + sumN (n - 1)

DONE
  rts
```