.ORIG x3000

AND R5, R5, #0

ADD R5, R5, #1 ;R5 will act as a mask to

;mask out the unneeded bit

AND R1, R1, #0 ;zero out the result register

AND R2, R2, #0 ;R2 will act as a counter

LD R3, NegSixt

MskLoop AND R4, R0, R5 ;mask off the bit

BRz NotOne ;if bit is zero then don't

;increment the result

ADD R1, R1, #1 ;if bit is one increment

;the result

NotOne ADD R5, R5, R5 ;shift the mask one bit left

ADD R2, R2, #1 ;increment counter (tells us

;where we are in bit pattern)

ADD R6, R2, R3

BRn MskLoop ;not done yet go back and

;check other bits

HALT

NegSixt .FILL #-16

.END