

BitCounter:

```
    add    $v0, $zero, $zero    # OneCount <-- 0
    ble    $a1, $zero, Done     # if BitCount <= 0 goto Done
```

NextWord:

```
    lw     $t1, 0($a0)          # word = *Pointer
    lui    $t2, 0x8000          # mask = 0x8000 0000
```

NextBit:

```
    ble    $a1, $zero, Done     # if BitCount <= 0 goto Done
    and    $t5, $t1, $t2        # temp <-- word & mask
    beq    $t5, $zero, NotOne    # if word & mask != 0 goto NotOne
    addi   $v0, $v0, 1          # OneCount <-- OneCount + 1
```

NotOne:

```
    srl    $t2, $t2, 1          # mask <-- mask>>1
    addi   $a1, $a1, -1          # BitCount <-- BitCount - 1
    bne    $t2, $zero, NextBit  # if mask != 0 goto NextBit
    addi   $a0, $a0, 4           # Pointer++
    beq    $zero, $zero, NextWord
```

Done:

```
    jr     $ra
```