

This is problem 2 from Test 2. It's referenced in Homework 8.

2. The following x86-64 assembly code is the compiled image of a C subroutine `proc`.

```
proc :
    movl    $0, %edx
    movl    $0, %eax
    jmp     .L2
.L4:
    movslq  %edx, %rcx
    testb   $1, (%rdi,%rcx,8)
    jne     .L3
    addq    $1, %rax
.L3:
    addl    $1, %edx
.L2:
    movslq  %edx, %rcx
    cmpq   %rsi, %rcx
    jl     .L4
    ret
```

Fill in the missing C code that might have generated the code above:

```
long proc( long a[], long len )
{
    long count = _____;
    int i;

    for (i = 0; _____; _____){

        if ( _____ ) {

            _____;
        }
    }
    return _____;
}
```