

Lecture 13 Demo Program 1

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# Lecture 13 Demo Program 1: "L Finder"
# This program counts the number of l's in "Hello, world!\n"
# The number of l's is printed on the console.
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.text
main:    la $t0, str      # put starting address of "hello world" into t0
loop:    lb $t1, 0($t0)    # load byte in phrase
         beqz $t1, over    # if character null, we are finished
         beq $t1, 0x6c, cnt # if the character is an l, go to count
incr:    addi $t0, $t0, 1  # add 1 to current byte address
         j loop           # get next byte to compare
cnt:     addi $t2, $t2, 1  # add one to count of letter l's in phrase
         j incr          # go back into loop
over:    la $a0, rept      # Output report phrase
         li $v0, 4
         syscall
         move $a0, $t2     # move total l-count to $a0 for output
         li $v0, 1
         syscall          # output letter total
         li $v0, 10
         syscall          # end program

.data
str:     .asciiz "Hello, world!\n"
rept:    .asciiz "The total count of the letter l is "
```