

```

tree:      .word   node1
           .word   node2
           .word   4
node1:    .word   node11
           .word   node12
           .word   2
node11:   .word   0
           .word   0
           .word   1
node12:   .word   0
           .word   0
           .word   3
node2:    .word   0
           .word   0
           .word   5
sep:      .asciiz  " "

printTree: beqz    $a0,end
           addi   $sp,-8
           sw     $a0,($sp)
           sw     $ra,4($sp)

           lw     $a0,($a0)
           jal   printTree

           li     $v0,1
           lw     $t0,($sp)
           lw     $a0,8($t0)
           syscall
           li     $v0,4
           la     $a0,sep
           syscall

           lw     $a0,4($t0)
           jal   printTree

           lw     $a0,($sp)
           lw     $ra,4($sp)
           addi   $sp,8
end:      jr      $ra

lengthTree: li     $v0,0
           beqz   $a0,return
           addi   $sp,-12
           sw     $a0,($sp)
           sw     $ra,4($sp)
           sw     $s0,8($sp)

           lw     $a0,($a0)
           jal   lengthTree
           add    $s0,$v0,1
           lw     $a0,($sp)
           lw     $a0,4($a0)

```

```
        jal    lengthTree
        add    $v0,$s0,$v0

        lw    $a0,($sp)
        lw    $ra,4($sp)
        lw    $s0,8($sp)
        addi  $sp,12
return:  jr    $ra
```