```
# Sample spim program
#


        .data
prompt: .asciiz "Enter in an integer: "
str1:   .asciiz "the answer is: "
newline: .asciiz         "\n"
bye:    .asciiz "Goodbye!\n"
        .globl  main

        .text
main:

        # initialize
        li      $s0, 10

        # prompt for input
        li      $v0, 4
        la      $a0, prompt
        syscall

        # read in the value
        li      $v0, 5
        syscall
        move    $s0, $v0


loop:
        # print str1
        li      $v0, 4
        la      $a0, str1
        syscall

        # print loop value
        li      $v0, 1
        move    $a0, $s0
        syscall

        # print newline
        li      $v0, 4
        la      $a0, newline
        syscall

        # decrement loop value and branch if not negative
        sub     $s0, $s0, 1
        bgez    $s0, loop

        # print goodbye message
        li      $v0, 4
        la      $a0, bye
        syscall
```