#Prompts the user for one character. Checks whether the character is a digit and prints an appropriate message.

.data

#To obtain one character from the keyboard, we must also read the subsequent newline character typed by the user and provide space for the ‘\0’ character. So, the buffer below must be at least 3 characters long.

inchar: .space 3

prompt: .asciiz "Type a char: 
yes_str: .asciiz "Yes -- It is a digit.\n"
no_str: .asciiz "No -- It is not a digit.\n"

.text
.globl main

#Prompt user for character.
main: li $v0, 4  #Command for print string.
    la $a0, prompt #Start addr. of prompt string.
    syscall

#Read the character.

1i $v0, 8  #Command for read string.
1a $a0, inchar #Buffer
1i $a1, 3 #Max. no. of characters (incl. newline)
    #to be read = 3 - 1 = 2.
    syscall

(over)
# Check whether the character is a digit.

lbu $4, inchar # Get the character into $4.
li $5, 48 # 48 is the ASCII code for '0'
li $6, 57 # 57 is the ASCII code for '9'

blt $4, $5, no_part # If ASCII code is < 48 or > 57
bgt $4, $6, no_part # it can't be a digit.

# Code to print "yes" answer and stop.

yes_part: li $v0, 4
la $a0, yes_str
syscall
li $v0, 10
syscall

# Code to print "no" answer and stop.

no_part: li $v0, 4
la $a0, no_str
syscall
li $v0, 10
syscall