## Part 1

Enter a positive number and make a while loop that terminates printing the comma-separated list of numbers from 1 to the user input. Example input prompt and output is following:

|  |
| --- |
| Enter a positive integer greater than 1: 5  1, 2, 3, 4, 5,  -- program is finished running --  Reset: reset completed.  Enter a positive integer greater than 1: 1  1,  -- program is finished running --  Reset: reset completed.  Enter a positive integer greater than 1: 0  -- program is finished running -- |

|  |
| --- |
| #Homework 6-1 Michael Bros  .data  prompt: .asciiz "Please enter an integer greater than 1: "  comma: .asciiz ", "  newLine: .asciiz "\n"  .text  main:  li $v0, 4 #print prompt  la $a0, prompt  syscall    li $v0, 5 #get user input put into $s0  syscall  move $s0,$v0    li $t1, 1 #init 1 for comparison and counter    beqz $t0, While    j While  While:  addi $s1, $s0, 1 #add one to input  slt $t0, $t1, $s1 #check counter < input+1  beqz $t0, Exit #if true exit    li $v0, 1 #print counter  add $a0, $t1, $0  syscall    li $v0, 4 #print comma  la $a0, comma  syscall    addi $t1, $t1, 1 #increment counter  j While  Exit:  li $v0, 10  syscall |

## 

## Part 2

Implement the same program as above but with a “Do While” loop. Note that it will print the first number once even if the while condition is FALSE.

|  |
| --- |
| #Homework 6-2 Michael Bros  .data  prompt: .asciiz "Please enter an integer greater than 1: "  comma: .asciiz ", "  newLine: .asciiz "\n"  .text  main:  li $v0, 4 #print prompt  la $a0, prompt  syscall    li $v0, 5 #get user input put into $s0  syscall  move $s0,$v0    li $t1, 1 #init 1 for comparison and counter    j While  While:  li $v0, 1 #print counter  add $a0, $t1, $0  syscall    li $v0, 4 #print comma  la $a0, comma  syscall    slt $t0, $t1, $s0 #check counter < input+1  beqz $t0, Exit #if true exit  addi $t1, $t1, 1 #increment counter  j While  Exit:  li $v0, 10  syscall |

## 

## Part 3

Translate the following code to MIPS:

|  |
| --- |
| for(i=5; i>0; i--){  cout<<i;  } |

|  |
| --- |
| #Homework 6-3 Michael Bros  .data  comma: .asciiz ", "  .text  main:  li $t1, 5 #init i    j For  For:  slt $t0, $0, $t1 #check 0 < i  beqz $t0, Exit #if false exit    li $v0, 1 #print i  add $a0, $t1, $0  syscall    li $v0, 4 #print comma  la $a0, comma  syscall    addi $t1, $t1, -1 #decrement counter  j For  Exit:  li $v0, 10  syscall |