

Above is the sum of integers from 1 to 100.

Below is the modified program to calculate the sum of the squares of the integers 1 to 100:

.globl main

main: # sum of integers from 1 to 100

.text

add $t0, $zero, $zero # I is zero

add $s0, $zero, $zero # Sum is zero

addi $t1, $zero, 100 # set the limit value (100)

loop:

addi $t0, $t0, 1 # I = I + 1

mul $t2, $t0, $t0 # t2 = I \* I

add $s0, $s0, $t2 # Sum = Sum + (I)^2

blt $t0, $t1, loop # I < 100 loop to do again

addi $v0, $zero, 4 # print string

la $a0, str # the text for output

syscall # call opsys

addi $v0, $zero, 1 # print integer

add $a0, $zero, $s0 # the integer is sum

syscall # call opsys

addi $v0, $zero, 4 # print string

la $a0, stopped # the text for output

syscall # call opsys

addi $v0, $zero, 10 # finished .. stop .. return

syscall # to the Operating System

.data

str: .asciiz "The sum of the squares of the integers 1 .. 100 is "

stopped:

.asciiz "\nStopped."

And below is the updated output:

