Bonus

CS2340.002

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Partially Complete

During 2019 Dallas Hackathon, your company's server computer was crashed by a hacker (fabricated story). The hacker has left behind a paper with the following piece of information:

.data

.globl count

count:

.word 8

.globl list

list:

.word -2,3,12,0,10,-3,9,5

.globl str

str:

.asciiz "The result is:"

.globl space

space:

.asciiz " "

.globl newln

newln:

.asciiz "\n"

.align 2

.text

.globl main

main:

[0x00400020] 0x3c011001 lui $at, 4097

[0x00400024] 0x342b0004 ori $t3, $at, 4

[0x00400028] 0x3c011001 lui $at, 4097

[0x0040002c] 0x8c2e0000 lw $t6, 0

[0x00400030] 0x000e6080 sll $t4, $t6, 2

[0x00400034] 0x000ca021

[0x00400038] 0x000e6843 sll $t5, $t6, 1

[0x0040003c] 0x018b6020

[0x00400040] 0x000d6880

[0x00400044] 0x01ab6820

[0x00400048] 0x218cfffc

[0x0040004c] 0x8d6f0000

[0x00400050] 0x8d900000

[0x00400054] 0xad700000

[0x00400058] 0xad8f0000

[0x0040005c] 0x216b0004

[0x00400060] 0x016d8822

[0x00400064] 0x1620fff8

[0x00400068] 0x34020004

[0x0040006c] 0x3c011001 lui $at, 4097

[0x00400070] 0x34240024

syscall

li $15, 0

print:

li $v0, 4

la $a0, space

syscall

lw $a0, list($15)

li $v0, 1

syscall

addi $15, $15, 4

slt $8, $15, $20

bnez $8, print

li $v0, 4

la $a0, newln

syscall

li $v0, 10

syscall

As an acknowledged expert of MIPS assembly, you realize that this is the critical part of the server software with addresses (labels) on the left and machine code on the right. You now try to save the server by translating the machine code to make a complete and sensible MIPS program. Your tasks: write down the sequence of equivalent MIPS assembly instructions, and state what will be printed on the console window if the complete program is executed.