# Program 1 for csci 312 author: thomas zangari

.data

# Defining the variable

A: .word 23

B: .word 7

CompA: .word 0 # two's complenment of variable A

Sum: .word 0 # Variable for the sum of A and B

ALessB: .word 0 # Subtracting A and B

BLessA: .word 0 # Subtracting B and A

Space: .asciiz " "

.text

# Adding the integers A B

lw $t0,A # $t0 <- A

lw $t1,B # $t1 <- B

add $t2, $t0, $t1 # $t2 <- $t0 + $t1

sw $t2, Sum

# Subtracting A and B

sub $t3, $t0, $t1 # $t3 <- $t0 - $t1

sw $t3, ALessB

# Subtracting B and A

sub $t4, $t1, $t0 # $t4 <- $t1 - $t0

sw $t4, BLessA

# Assignin the two's compliments of A

neg $t5, $t0 # $t5 <- $t0

sw $t5, CompA

# Print the output line

li $v0, 1 # $v0 <- 1

lw $a0, A # $a0 <- A

syscall

li $v0, 4

la $a0, Space

syscall

li $v0, 1

lw $a0, B

syscall

li $v0, 4

la $a0, Space

syscall

li $v0, 1

lw $a0, CompA

syscall

li $v0, 4

la $a0, Space

syscall

li $v0, 1

lw $a0, Sum

syscall

li $v0, 4

la $a0, Space

syscall

li $v0, 1

lw $a0, ALessB

syscall

li $v0, 4

la $a0, Space

syscall

li $v0, 1

lw $a0, BLessA

syscall

li $v0, 10

syscall

23 7 -23 30 16 -16

-- program is finished running --