**Thực hành kiến trúc máy tính**

**Assignment 1:**

1.khi cộng hai số dương (tràn số ):

li $s1,3000000000

li $s2,3000000000

**Kết quả :** $t0 = 1 -> tràn số

Graphical user interface, application, table

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2.khi cộng hai số âm (tràn số)

li $s1,-3

li $s2,0x80000000

**Kết quả :** $t0 = 1 -> tràn số

Graphical user interface, application, table

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3.khi cộng hai số dương (không tràn)

li $s1,3

li $s2,1

**Kết quả :** $t0 = 0 -> không tràn số

Graphical user interface, text

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4.khi cộng hai số âm (không tràn)

li $s1,-3

li $s2,-1

**Kết quả :** $t0 = 0 -> không tràn số

Graphical user interface, application, table

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5.cộng hai số trái dấu

li $s1,-3

li $s2,1

**kết quả:**

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**Assignment 2:**

**.**text

li $s0, 0x4a1325de

srl $t0, $t0, 24 #extract $s0’s MSB to $t0

andi $t1, $s0, 0xffffff00 #clear $s0’s MSB, save it to $t1

ori $t2, $s0, 0xff #set $s0’s MSB to 0xff, save to $s2

andi $t3, $s0, 0 #clear $s0, save to t3

#alternate way: xor $t3, $s0, $s0

**Assignment 3:**

a, abs $s0,$s1

code:

.text #pseudo abs($s0)

add $s0,$0,-1001

sra $1,$s0,0x1f

xor $s0,$s0,$1

subu $s0,$s0,$1

b, move $s0,$s1

code:

.text

add $s0,$0,$s1

c, not $s0, $s1

code:

.text

add $s0,$0, -1001

nor $t1,$s0,$0

d, ble $s1,$s2,label

code:

.text

sub $s0,$s1,$s2

blez $s0, label

label:

EXIT:

**Assignment 4:**

**Code**:

.text

start:

li $s1, 300000000

li $s2, 300000000

li $t0,0 #No Overflow is default status

addu $s3,$s1,$s2

xor $t1,$s1,$s2 #Test if $s1 and $s2 have the same sign

bltz $t1,EXIT #If not, exit

xor $t2,$s1,$s3 #Test if $s1 and sum have the same sign

bltz $t2,OVERFLOW #If not, the result is overflow

b EXIT

OVERFLOW:

li $t0,1 #the result is overflow

EXIT:

**Kết quả:**

Graphical user interface, text, application

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**Assignment 5:**

**Code:**

.text

li $s0,1

li $s1,2

sllv $s2,$s0,$s1

**Kết quả:**

A screenshot of a computer

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