Báo cáo thực hành tuần 4

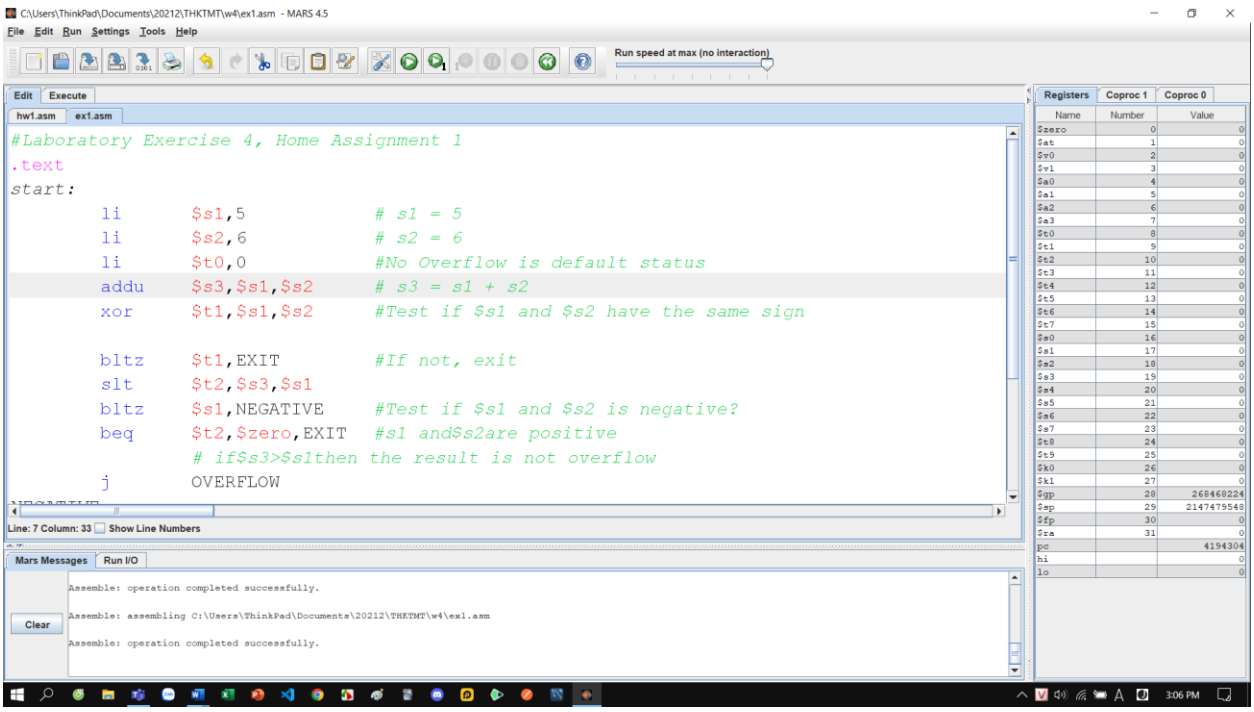
Phùng Ngọc Vinh – 20194719

Bài 1:

*Trạng thái Not overflow:

- 2 số dương:

$s1 = 5; $s2 = 6

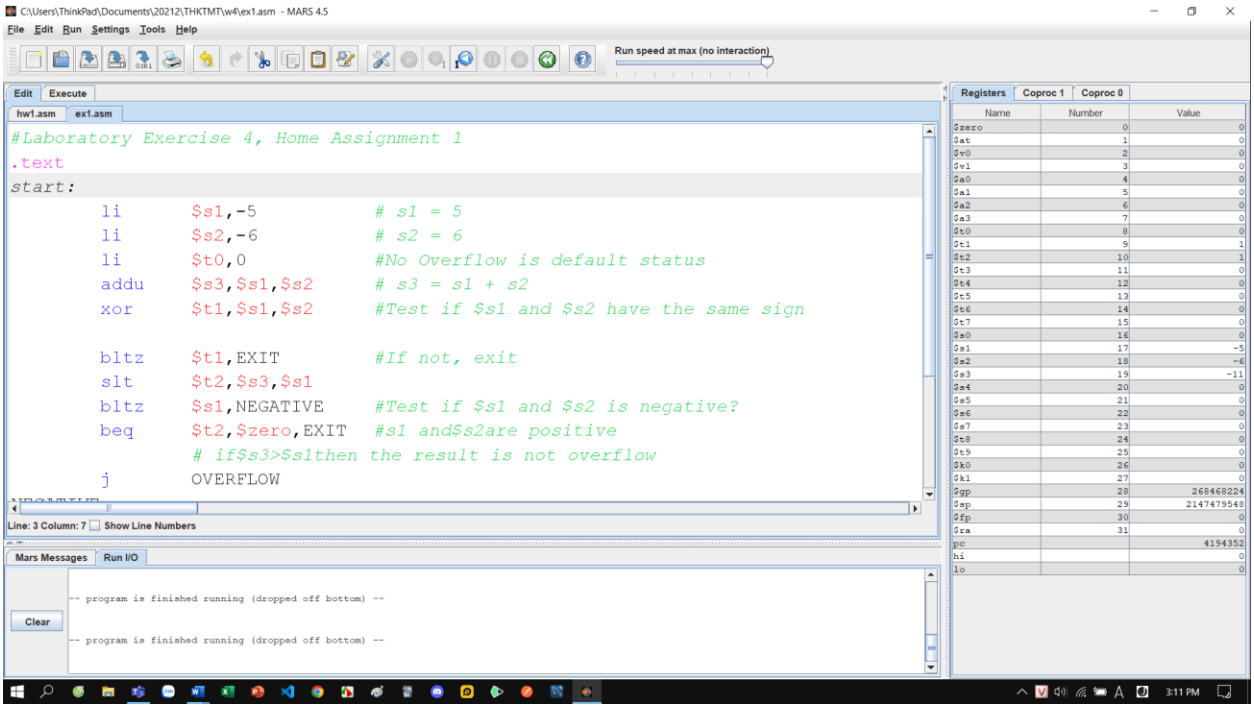


Kết quả:

$t0	8	0

- 2 số âm:

$s1 = -5; $s2 = -6

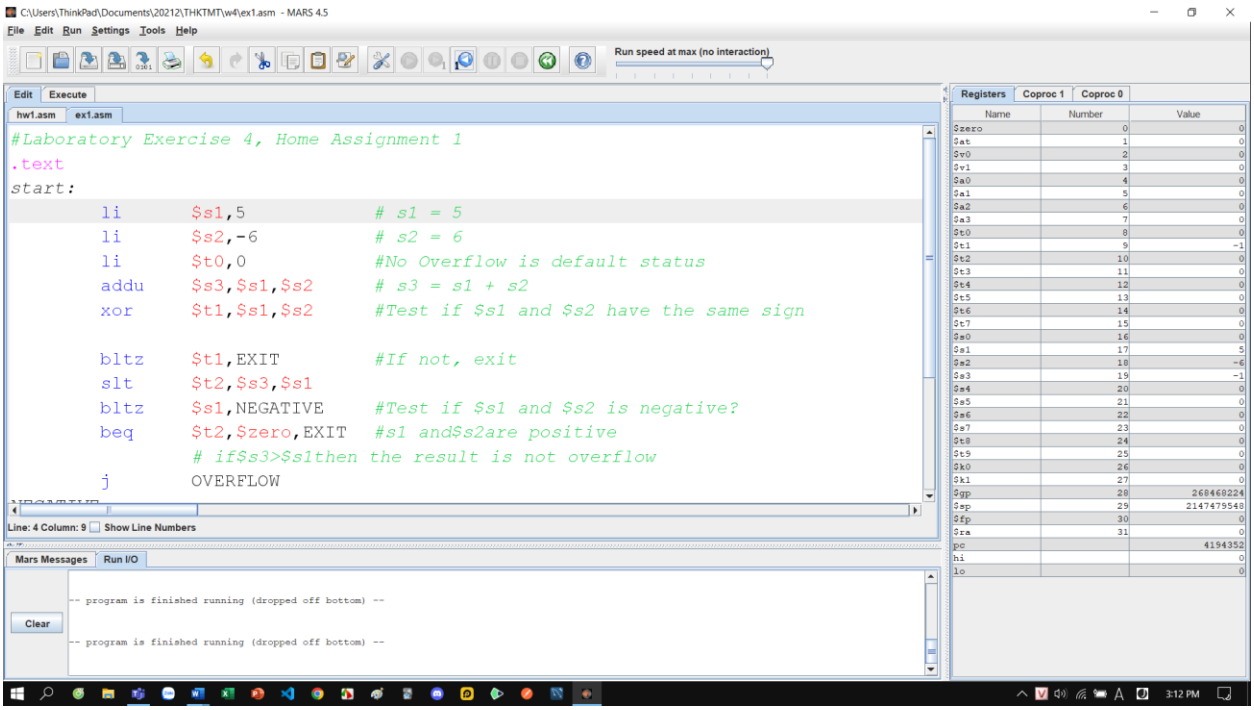


Kết quả:

$t0	8	0

- 2 số khác dấu:

$s1 = 5; $s2 = -6



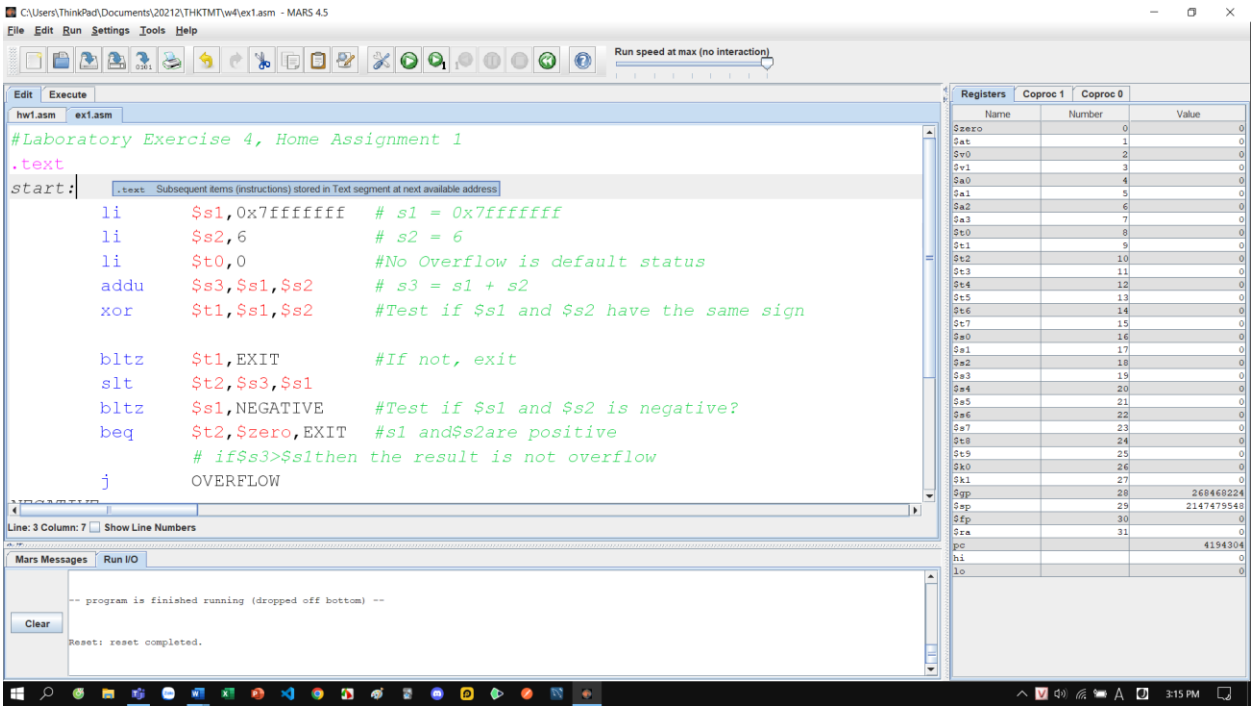
Kết quả:

$t0	8	0

* Trạng thái Overflow:

- 2 số dương:

$s1 = 0x7fffffff; $s2 = 6

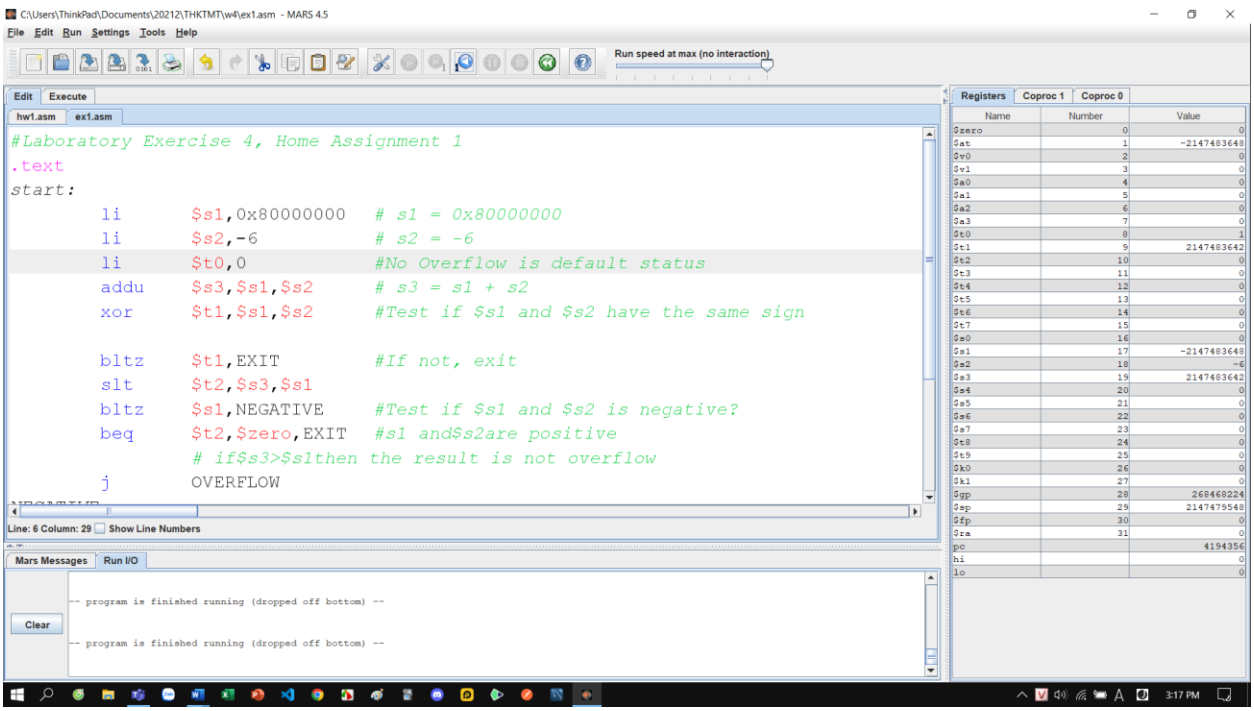


Kết quả:

$t0	8	1

- 2 số âm:

$s1 = 0x80000000; $s2 = -6



Kết quả:

$t0	8	1

Bài 2:

.text

```
        li      $s0,0x12345678
        andi    $t0,$s0,0xff000000      #Extract MSB of $s0
        andi    $t1,$s0,0xffffff00      #Clear LSB of $s0
        ori     $t2,$s0,0x000000ff      #Set LSB of $s0(bits 7 to 0 are set to 1)
        xor     $s0,$s0,$s0             #Clear$s0($s0=0, must use logical
instructions)
```

*Kết quả:

Extract MSB of $s0

$t0	8	0x12000000

Clear LSB of $s0

$t1	9	0x12345600

Set LSB of $s0(bits 7 to 0 are set to 1)

$t2	10	0x123456ff

Clear $s0($s0=0, must use logical instructions)

$s0	16	0x00000000

Bài 3:

a. abs $s0,$s1

```
.text
    li    $s1,26          #gan s1 = -26
    li    $s2,1
    bltz  $s1,SOAM        # kiem tra dau cua s1
    add   $s0,$s1,$0
    j     EXIT
SOAM:
    sub   $t0,$s1,$s2     #tru s1 cho 1
    not   $s0,$t0         #dao bit
EXIT:
```

b. move $s0,$s1

```
.text
    li    $s1, 26         #gan s1 = 26
    add   $s0,$s1,$0      #s0 = s1
```

c. not $s0, $s1

```
.text
    li      $s1,26          #gan s1 = 26
    nor     $s0,$s1,$0
```

d. ble $s1,$s2,label

```
.text
    li      $s1,26          #gan s1 = 26
    li      $s2,75          #gan s2 = 7

    sub     $t0,$s1,$s2     #t0 = s1 - s2
    blez    $t0,LABEL  #t0 <= 0 ?
    j       EXIT
LABEL:
    li      $s3, 2001   #kiem tra
EXIT:
```

Câu 4:

```
.text
    addi $s1, $zero, 0x7fffffff
    addi $s2, $zero, 1
    li $t0, 0           # trang thai Not overflow
    addu $s3, $s1, $s2
    xor $t1, $s1, $s2   # check dau s1 va s2
    bltz $t1, EXIT
    xor $t1, $s1, $s3   # check dau s1 va s3
    bgtz $t1, EXIT
```

```
OVERFLOW:
        li $t0, 1          #Overflow
EXIT:
```

Câu 5:

```
        $s3 = $s1 * $s2
.text
        li      $s1,26              #gan s1 = 26
        li      $s2,8               #gan s2 = 8
        srl     $t0,$s2,1 #dich phai 1 bit
        li      $t1,1               #count = 1

loop:       beq  $t0,1,enloop    #dk dung
        srl     $t0,$t0,1 #tipe tuc dich phai 1 bit
        addi $t1,$t1,1 # t1 = t1 + 1
        j       loop
enloop:
        sllv    $s3,$s1,$t1      #s3 = s1 * (2^count)
EXIT:
```