Aula Array

Exemplo 1

.data #0x10010000

a: .word 2,6,5

# 0,2,4,8

.text #0x00400000

#Armazenando os valores do vetor

la $s1, a # carregando o endereço do vetor

lw $t1, 0($s1) # a[0] = $t1 <= 2

lw $t2, 4($s1) # a[1] = $t2 <= 6

lw $t3, 8($s1) # a[2] = $t3 <= 5

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Exemplo 2

.data #0x10010000

a: .word 2,6,5,10,-6,50,120

# 0,2,4,8

.text #0x00400000

la $s1, a # $s1 = 0x10010000

li $t2, 0 # i =0, carregando um imediato

li $s0, 0 # j = 0

while: ble $s0, 2, LOOP #$s0 <= 2, se for menor irá desviar para o while, ble menor ou igual

j EXIT

LOOP:

sll $t3, $t2, 2 #$t2 << 2 | $t2 \* 2^n = 0 \*2^2 = 0 , armazena em $t3 o resultado deslocado de 2 posicoes o $t2

add $t5, $t3, $s1 # $t5 = 0 + 0x10010000(como se fosse um deslocamento, offset de 0) | $t5 = $t3 + $s1

lw $t1, 0($t5) #$t1 = dado do end. 0x10010000, o conteudo armazenado em 0x10010000 com offset de eh 2

add $s0, $s0, 1 #$s0 = $s0 + 1

addi $t2, $t2, 1 #$t2 = $t2 + 1

j while

EXIT:

Exemplo 3

.data #0x10010000

a: .word 2,6,5,10,-6,50,120

# 0,2,4,8

.text #0x00400000

la $s1, a # $s1 = 0x10010000

#Substituindo os valores no vetor

li $t1, 500

li $t2, 300

li $t3, 300

sw $t1, 12($s1)

sw $t2, 20($s1)

Exemplo 4

.data #0x10010000

a: .word 2,6,5,10,-6,50,120

# 0,2,4,8

.text #0x00400000

la $s1, a # $s1 = 0x10010000

li $t2, 0 # i =0

li $s0, 0 # j = 0

li $t7, 125

while: ble $s0, 6, LOOP

j EXIT

LOOP:

sll $t3, $t2, 2 #$t2 << 2 | $t2 \* 2^n

add $t1, $t3, $s1 #$t1 = 0 + 0x10010000

sw $t7, 0($t1) #dado do end. 0x10010000

add $s0, $s0, 1 #$s0 = $s0 + 1

addi $t2, $t2, 1 #$t2 = $t2 + 1

addi $t7, $t7, 25 #$t7 = $t7 + 25

j while

EXIT: