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Báo cáo thực hành tuần 5

Bộ môn THỰC HÀNH KĨ THUẬT MÁY TÍNH

Bài 1:

-Code:

#Thuc hanh ki thuat may tinh tuan 5 - Bai 1

.data

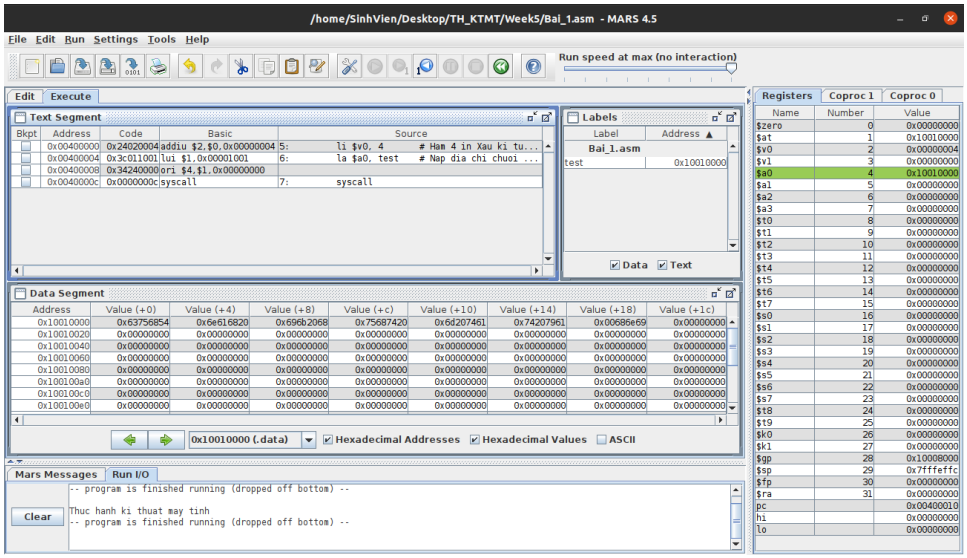
test: .asciiz "Thuc hanh ki thuat may tinh"

.text

li $v0, 4 # Ham 4 in Xau ki tu trong cua so Run I/O

la $a0, test # Nap dia chi chuoi vao thanh ghi a0

syscall



Bài 2:

- Code:

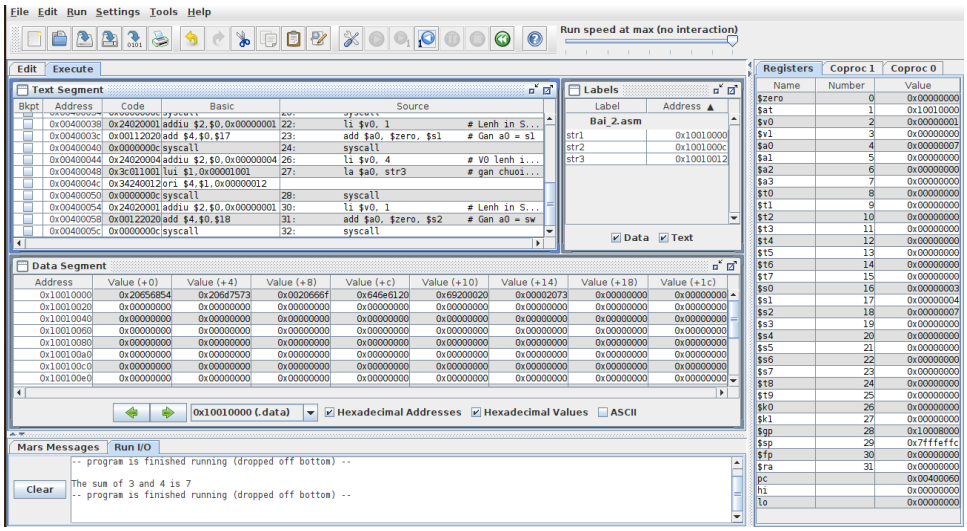
```
.data
str1: .asciiz "The sum of "
str2: .asciiz " and "
str3: .asciiz " is "
.text
li $s0, 3          # Khoi tao gia tri s0
li $s1, 4          # Khoi tao gia tri s1
add $s2, $s0, $s1          # s2 = s0 + s1

li $v0, 4          # V0 lenh in String
la $a0, str1               # gan chuoi String
syscall

li $v0, 1          # Lenh in So nguyen
add $a0, $zero, $s0        # Gan a0 = s0
syscall

li $v0, 4          # V0 lenh in String
la $a0, str2               # gan chuoi String
syscall

li $v0, 1          # Lenh in So nguyen
add $a0, $zero, $s1        # Gan a0 = s1
syscall

li $v0, 4          # V0 lenh in String
la $a0, str3               # gan chuoi String
```

syscall

li $v0, 1 # Lenh in So nguyen

add $a0, $zero, $s2 # Gan a0 = sw

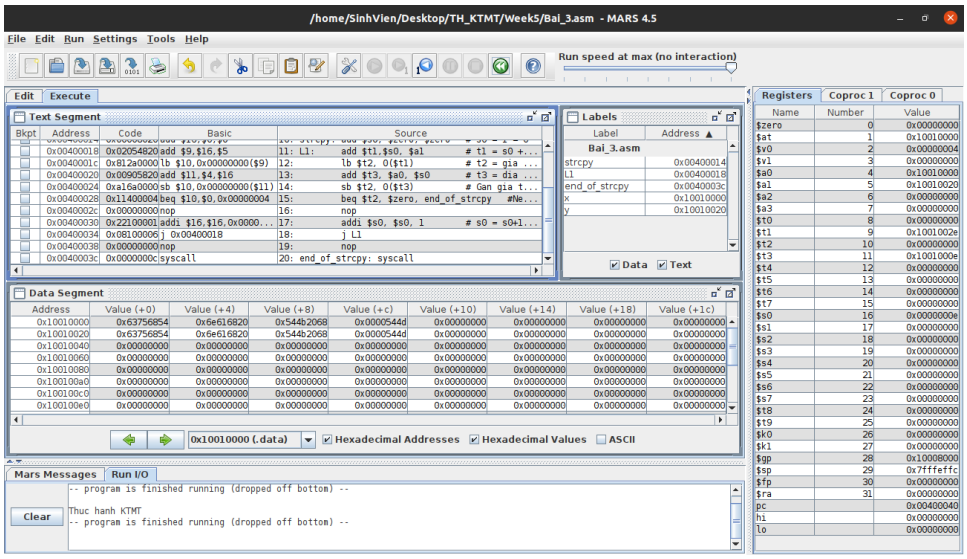
syscall



Bài 3:

- Code:

```
.data
x: .space 32                        # Khai bao Xau ki tu dich
y: .asciiz "Thuc hanh KTMT"         # Khai bao Xau ki tu nguon

.text
la $a1, y           # a1 chua dia chi cua CHUOI y
li $v0, 4
la $a0, x

strcpy:  add $s0, $zero, $zero     # s0 = i = 0
L1:      add $t1,$s0, $a1          # t1 = s0 + a1 = dia chi y[i]
lb $t2, 0($t1)                     # t2 = gia tri tai dia chi t1 = gia tri cua y[i]
add $t3, $a0, $s0                  # t3 = dia chi bat dau cua xau dich + index =  dia chi cua x[i]
sb $t2, 0($t3)                     # Gan gia tri cua y[i] cho o nho co dia chi t3 (x[i])
beq $t2, $zero, end_of_strcpy    #Neu ki tu vau doc la KI TU KET THUC CHUOI, KET THUC
nop
addi $s0, $s0, 1 # s0 = s0+1 <-> i=i+1
j L1
nop
end_of_strcpy:
```


/home/SinhVien/Desktop/TH_KTMT/Week5/Bai_3.asm - MARS 4.5
File Edit Run Settings Tools Help
Run speed at max (no interaction)
Edit Execute
Text Segment
Bkpt Address Code Basic Source
0x00400018 0x02054820 add $9,$16,$5 11: L1: add $t1,$s0, $a1 # t1 = s0 +...
0x0040001c 0x812a0000 lb $10,0x00000000($9) 12: lb $t2, 0($t1) # t2 = gia ...
0x00400020 0x00905820 add $11,$4,$16 13: add $t3, $a0, $s0 # t3 = dia ...
0x00400024 0xa16a0000 sb $10,0x00000000($11) 14: sb $t2, 0($t3) # Gan gia t...
0x00400028 0x11400004 beq $10,$0,0x00000004 15: beq $t2, $zero, end_of_strcpy #Ne...
0x0040002c 0x00000000 nop 16: nop
0x00400030 0x22100001 addi $16,$16,0x0000... 17: addi $s0, $s0, 1 # s0 = s0+1...
0x00400034 0x08100006 j 0x00400018 18: j L1
0x00400038 0x00000000 nop 19: nop
0x0040003c 0x0000000c syscall 20: end_of_strcpy: syscall
Labels
Label Address
Bai_3.asm
strcpy 0x00400014
L1 0x00400018
end_of_strcpy 0x0040003c
x 0x10010000
y 0x10010020
Data Text
Data Segment
Address Value (+0) Value (+4) Value (+8) Value (+c) Value (+10) Value (+14) Value (+18) Value (+1c)
0x10010000 0x63756854 0x6e616820 0x544b2068 0x0000544d 0x00000000 0x00000000 0x00000000 0x00000000
0x10010020 0x63756854 0x6e616820 0x544b2068 0x0000544d 0x00000000 0x00000000 0x00000000 0x00000000
0x10010040 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000
0x10010060 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000
0x10010080 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000
0x100100a0 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000
0x100100c0 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000
0x100100e0 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000
0x10010000 (.data) Hexadecimal Addresses Hexadecimal Values ASCII
Mars Messages Run I/O
Clear
-- program is finished running (dropped off bottom) --
Thuc hanh KTMT
-- program is finished running (dropped off bottom) --
Registers Coproc 1 Coproc 0
Name Number Value
$zero 0 0x00000000
$at 1 0x10010000
$v0 2 0x00000004
$v1 3 0x00000000
$a0 4 0x10010000
$a1 5 0x10010020
$a2 6 0x00000000
$a3 7 0x00000000
$t0 8 0x00000000
$t1 9 0x1001002e
$t2 10 0x00000000
$t3 11 0x1001000e
$t4 12 0x00000000
$t5 13 0x00000000
$t6 14 0x00000000
$t7 15 0x00000000
$s0 16 0x0000000e
$s1 17 0x00000000
$s2 18 0x00000000
$s3 19 0x00000000
$s4 20 0x00000000
$s5 21 0x00000000
$s6 22 0x00000000
$s7 23 0x00000000
$t8 24 0x00000000
$t9 25 0x00000000
$k0 26 0x00000000
$k1 27 0x00000000
$gp 28 0x10008000
$sp 29 0x7fffefffc
$fp 30 0x00000000
$ra 31 0x00000000
pc 0x00400040
hi 0x00000000
lo 0x00000000

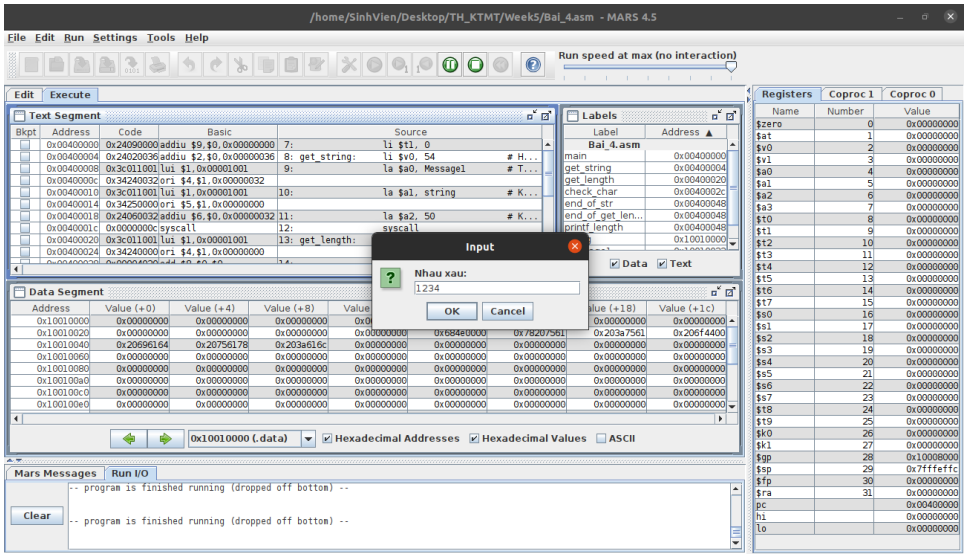
Bài 4:

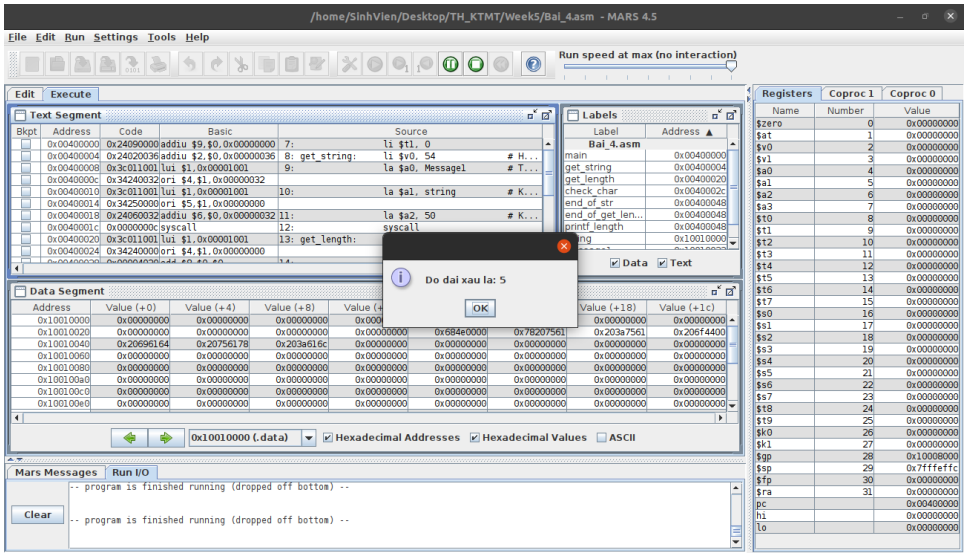
- Code:

```
.data
string: .space 50           #Khai bao xau ki tu
Message1: .asciiz "Nhau xau: "
Message2: .asciiz "Do dai xau la: "
.text
main:
li $t1, 0
get_string:     li $v0, 54                  # Ham 54 nhap va xau ki tu
la $a0, Message1        # Tieu de
la $a1, string              # Khai bao DL nhap vao se duoc luu vao string
la $a2, 50                  # Khai bao so ki tu toi da co the nhan
syscall
get_length:     la $a0, string              # a0 chua dia chi cua Xau KI TU string
        add $t0, $zero, $zero   # s0 = i = 0
check_char:     add $t1, $a0, $t0       # t1 = a0+t0, dia chi cua string[i]
lb $t2, 0($t1)
beq $t2, $zero, end_of_str      #neu t2 la NULL
nop
add $t0, $t0,1              # t0 = t0+1 (dem)
j check_char                # quay lai kiem tra ki tu tiep theo
nop
end_of_str:
end_of_get_length:
printf_length:
li $v0, 56                  # Tao ra hop thoai chua string va so nguyen
la $a0, Message2        # Tieu de
add $a1, $zero, $t0     # a1 = t0 do dai xau
```

syscall

Kết quả:





Bài 5:

- Code:

```
.data
string: .space 21
.text
la $a0, string      # a0 chua dia chi cua string
li $s0, -1          # s0 la i
loop:
add $s0, $s0, 1  #s0 = s0 + 1
addi $s3, $s0, -19          #s3 = s1 -20 = count - 20
beq $s3, $zero, endloop#neu so luong qua 20, thoat
nop

li $v0, 12                  #doc vao v0
syscall

add $s4, $v0, -10           # Kiem tra v0 co phai Enter?
beq $s4, $zero, endloop# Neu co thoat

add $s1, $s0, $a0           #s1 = dia chi cua a[i]
sb $v0, 0($s1)              #Luu vao a[i]
j loop
nop
endloop:

print_loop:
li $v0, 11                          # Ham 11 in character
la $a2, string
lb $a0, 0($s1)                      # In s1
```

syscall

beq $s1, $a2, end_print_loop # Neu den a[0], thoat

nop

addi $s1, $s1, -1 # s1= s1-1

j print_loop

nop

end_print_loop: