

# BÁO CÁO KẾT QUẢ THỰC HÀNH LAB01 – CE119

Sinh viên: Trần Ngọc Ánh (MSSV: 22520077)

## Câu 2:

2\_VD1.asm 2\_VD2.asm 2\_VD3.asm 2\_VD4.asm 3a.asm 3a\_binary

```
1      .data          #khai báo vùng nhớ data
2      var1: .word 23  #khai báo biến kiểu word: var1 = 23
3      .text          #khai báo vùng nhớ text
4      _start:
5      lw $t0, var1    #t0 lưu giá trị var1
6      li $t1, 5        #t1 = 5
7      sw $t1, var1    #var1 lưu giá trị t1
8
9
```

C:\Users\NGOC ANH\OneDrive\Desktop\TNANH\UNIVERSITY\CE119-LABS\LAB01\2\_VD1.asm - MARS 4.5

File Edit Run Settings Tools Help

Run speed at max (no interaction)

Edit Execute

Text Segment

Offset	Address	Code	Basic	Source
0	0x00400000	0x3c011001	lui \$1,0x00000101	5: lw \$t0, var1 #t0 lưu giá trị var1
1	0x00400004	0x3c280000	lw \$9,0x00000000(\$1)	
2	0x00400008	0x24090005	addiu \$9,\$0,0x00000005	6: li \$t1, 5 #t1 = 5
3	0x0040000c	0x3c011001	lui \$1,0x00000101	7: sw \$t1, var1 #var1 lưu giá trị t1
4	0x00400010	0x3c280000	sw \$9,0x00000000(\$1)	

Data Segment

Address	Value (+0)	Value (+4)	Value (+8)	Value (+c)	Value (+10)	Value (+14)	Value (+18)	Value (+1c)
0x10010000	0x00000017	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000
0x10010020	0x00000000	0x00000000	0x00000000	0x00000000	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
0x10010100	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000
0x10010120	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000
0x10010140	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000
0x10010160	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000
0x10010180	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000
0x100101a0	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000

Mars Messages Run IO

Assembly: assembling C:\Users\NGOC ANH\OneDrive\Desktop\TNANH\UNIVERSITY\CE119-LABS\LAB01\2\_VD1.asm

Assembly: operation completed successfully.

Clear

32°C Nhiều mây

Search

4:16 PM 9/28/2023

2\_VD1.asm 2\_VD2.asm 2\_VD3.asm 2\_VD4.asm 3a.asm 3a\_binary

```
1      .data
2      array1: .space 12 #tạo 12 bytes bộ nhớ
3      .text
4      _start:
5      la $t0, array1    #t0 mang địa chỉ array1
6      li $t1, 5          #t1 = 5
7      sw $t1, 0($t0)    #array1[0] = t1
8      li $t1, 13        #t1 = 13
9      sw $t1, 4($t0)    #... tương tự
10     li $t1, -7
11     sw $t1, 8($t0)
```

Assembly code editor showing assembly instructions and registers.

**Text Segment**

Dispt	Address	Code	Basic	Source
0x00400000	0x3c011001	lui \$t1, 0x00001001	4: _start:	1a \$t0, array1 #t0 hang 77a ch? array1
0x00400004	0x34280000	ori \$t1, 0x00000000		
0x00400008	0x24090005	addiu \$t0, 0x00000005	5:	11 \$t1, 5 #t1 = 5
0x0040000c	0xad900000	sw \$t0, 0x00000000(\$t0)	6:	sw \$t1, 4(\$t0) #array[0] = t1
0x00400010	0x24090006	addiu \$t0, 0x00000006	7:	11 \$t1, 13 #t1 = 13
0x00400014	0xad900004	sw \$t0, 0x00000004(\$t0)	8:	sw \$t1, 4(\$t0) #...t?ng t?
0x00400018	0xad09ffff	addiu \$t0, 0x0000ffff	9:	11 \$t1, -7
0x0040001c	0xad900008	sw \$t0, 0x00000008(\$t0)	10:	sw \$t1, 8(\$t0)

**Data Segment**

Address	Value (+0)	Value (+4)	Value (+8)	Value (+c)	Value (+10)	Value (+14)	Value (+18)	Value (+1c)
0x10010000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000
0x10010020	0x00000000	0x00000000	0x00000000	0x00000000	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
0x10010100	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000
0x10010120	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000
0x10010140	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000
0x10010160	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000
0x10010180	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000
0x100101a0	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000

**Registers**

Name	Number	Value
\$zero	0	0x00000000
\$at	1	0x00000000
\$v0	2	0x00000000
\$v1	3	0x00000000
\$a0	4	0x00000000
\$a1	5	0x00000000
\$a2	6	0x00000000
\$a3	7	0x00000000
\$t0	8	0x00000000
\$t1	9	0x00000000
\$t2	10	0x00000000
\$t3	11	0x00000000
\$t4	12	0x00000000
\$t5	13	0x00000000
\$t6	14	0x00000000
\$t7	15	0x00000000
\$t8	16	0x00000000
\$t9	17	0x00000000
\$s0	18	0x00000000
\$s1	19	0x00000000
\$s2	20	0x00000000
\$s3	21	0x00000000
\$s4	22	0x00000000
\$s5	23	0x00000000
\$s6	24	0x00000000
\$s7	25	0x00000000
\$s8	26	0x00000000
\$s9	27	0x00000000
\$gp	28	0x10008000
\$fp	29	0x7ffffc00
\$ra	31	0x00000000
\$pc		0x00000000
\$hi		0x00000000
\$lo		0x00000000

**Mars Messages**

Assembly: assembling C:\Users\NGOC ANH\OneDrive\Desktop\TNANH\UNIVERSITY\CE119-LABS\LAB01\2\_VD1.asm  
Assembly: operation completed successfully.

Assembly: assembling C:\Users\NGOC ANH\OneDrive\Desktop\TNANH\UNIVERSITY\CE119-LABS\LAB01\2\_VD2.asm  
Assembly: operation completed successfully.

Assembly code editor showing assembly instructions and registers.

**Text Segment**

Dispt	Address	Code	Basic	Source
0x00400000	0x24020005	addiu \$t2, \$v0, 5	1: 11	\$v0, 5
0x00400004	0x0000000c	syscall	2: syscall	

**Registers**

Name	Number	Value
\$zero	0	0x00000000
\$at	1	0x00000000
\$v0	2	0x00000000
\$v1	3	0x00000000
\$a0	4	0x00000000
\$a1	5	0x00000000
\$a2	6	0x00000000
\$a3	7	0x00000000
\$t0	8	0x00000000
\$t1	9	0x00000000
\$t2	10	0x00000000
\$t3	11	0x00000000
\$t4	12	0x00000000
\$t5	13	0x00000000
\$t6	14	0x00000000
\$t7	15	0x00000000
\$t8	16	0x00000000
\$t9	17	0x00000000
\$s0	18	0x00000000
\$s1	19	0x00000000
\$s2	20	0x00000000
\$s3	21	0x00000000
\$s4	22	0x00000000
\$s5	23	0x00000000
\$s6	24	0x00000000
\$s7	25	0x00000000
\$s8	26	0x00000000
\$s9	27	0x00000000
\$gp	28	0x10008000
\$fp	29	0x7ffffc00
\$ra	31	0x00000000
\$pc		0x00000000
\$hi		0x00000000
\$lo		0x00000000

**Mars Messages**

Assembly: assembling C:\Users\NGOC ANH\OneDrive\Desktop\TNANH\UNIVERSITY\CE119-LABS\LAB01\2\_VD2.asm  
Assembly: operation completed successfully.

Assembly: assembling C:\Users\NGOC ANH\OneDrive\Desktop\TNANH\UNIVERSITY\CE119-LABS\LAB01\2\_VD3.asm  
Assembly: operation completed successfully.

Assembly code editor showing assembly instructions and registers.

**Text Segment**

Dispt	Address	Code	Basic	Source
0x00400000	0x24020005	addiu \$t2, \$v0, 5	1: 11	\$v0, 5
0x00400004	0x0000000c	syscall	2: syscall	

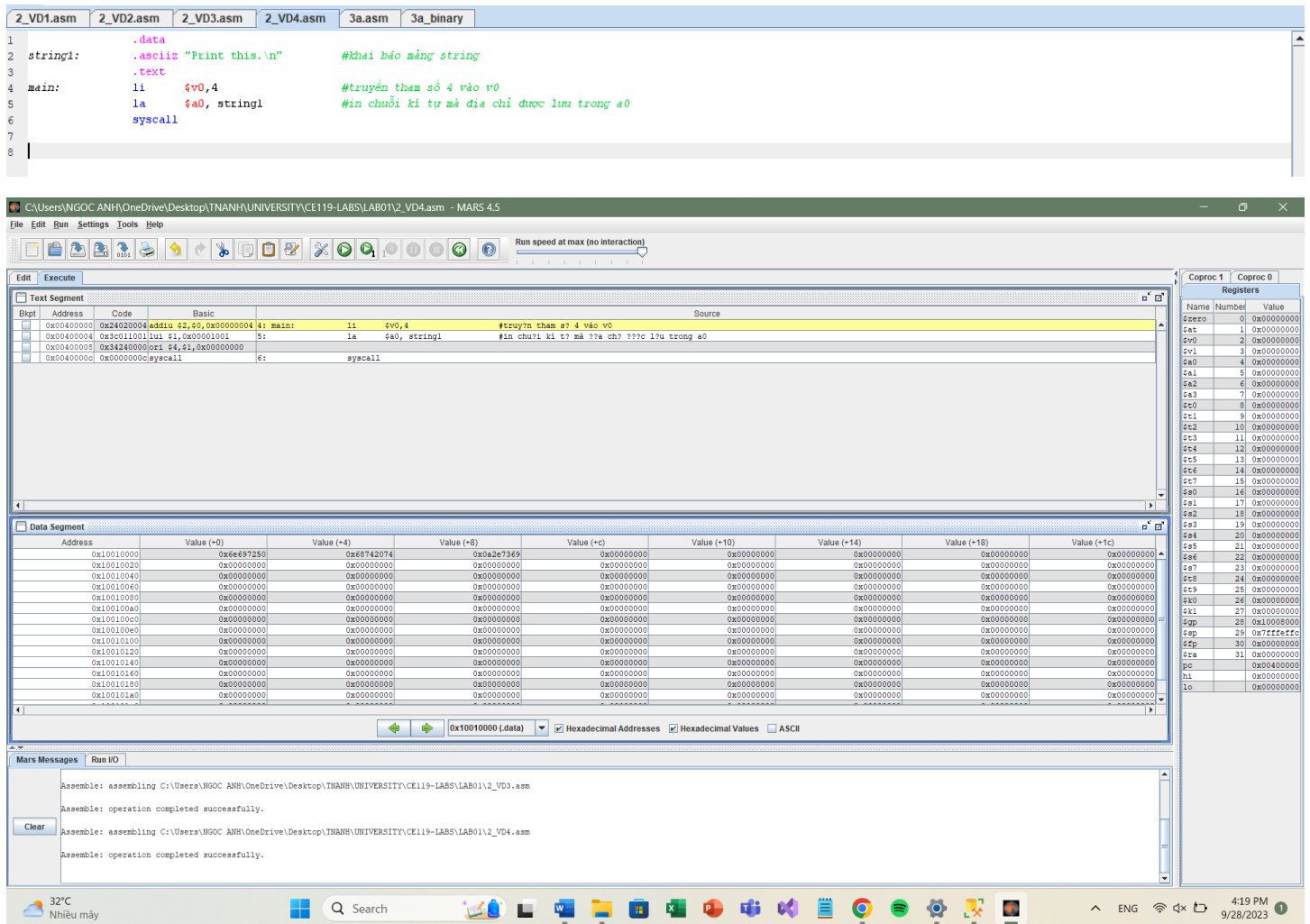
**Registers**

Name	Number	Value
\$zero	0	0x00000000
\$at	1	0x00000000
\$v0	2	0x00000000
\$v1	3	0x00000000
\$a0	4	0x00000000
\$a1	5	0x00000000
\$a2	6	0x00000000
\$a3	7	0x00000000
\$t0	8	0x00000000
\$t1	9	0x00000000
\$t2	10	0x00000000
\$t3	11	0x00000000
\$t4	12	0x00000000
\$t5	13	0x00000000
\$t6	14	0x00000000
\$t7	15	0x00000000
\$t8	16	0x00000000
\$t9	17	0x00000000
\$s0	18	0x00000000
\$s1	19	0x00000000
\$s2	20	0x00000000
\$s3	21	0x00000000
\$s4	22	0x00000000
\$s5	23	0x00000000
\$s6	24	0x00000000
\$s7	25	0x00000000
\$s8	26	0x00000000
\$s9	27	0x00000000
\$gp	28	0x10008000
\$fp	29	0x7ffffc00
\$ra	31	0x00000000
\$pc		0x00000000
\$hi		0x00000000
\$lo		0x00000000

**Mars Messages**

Assembly: assembling C:\Users\NGOC ANH\OneDrive\Desktop\TNANH\UNIVERSITY\CE119-LABS\LAB01\2\_VD2.asm  
Assembly: operation completed successfully.

Assembly: assembling C:\Users\NGOC ANH\OneDrive\Desktop\TNANH\UNIVERSITY\CE119-LABS\LAB01\2\_VD3.asm  
Assembly: operation completed successfully.



### Câu 3:

#### Source code:

```

.data
string1: .ascii "Chao ban! Ban la sinh vien nam thu may?\n"
string2: .ascii "Hihi, minh la sinh vien nam thu nhat ^^\\n"
string:   .ascii ""

.text

main:
    li      $v0, 4
    la      $a0, string1
    syscall

    la      $a0, string2
    syscall

    li      $v0, 8
    la      $a0, string

```

```
li      $a1, 100
```

```
syscall
```

```
li      $v0, 4
```

```
syscall
```

```
li      $v0, 5
```

```
syscall
```

```
add     $t0, $v0, $zero
```

```
li      $v0, 5
```

```
syscall
```

```
add     $t1, $v0, $zero
```

```
add     $a0, $t1, $t0
```

```
li      $v0, 1
```

```
syscall
```

## Kết quả:

a)

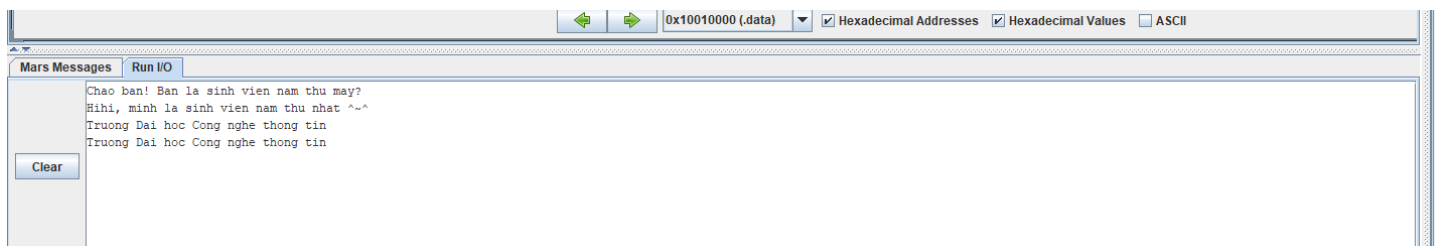
<div>Chào bạn! Bạn là sinh viên năm thứ mấy? Hihi, mình là sinh viên năm thứ nhất ^-^</div> <div>Clear</div>
------------------------------------------------------------------------------------------------------------------

b)

Edit	Execute				
2_VD1.asm	2_VD2.asm	2_VD3.asm	2_VD4.asm	3a.asm	3a_binary.asm

```
1 0010010000000010000000000000100
2 001111000000001000100000000001
3 001101000010010000000000000000
4 0000000000000000000000000001100
5 001111000000001000100000000001
6 0011010000100100000000000101001
7 0000000000000000000000000001100
8 001001000000010000000000001000
9 001111000000001000100000000001
10 00110100001001000000000001010011
11 00100100000001010000000001100100
12 0000000000000000000000000001100
13 0010010000000010000000000000100
14 0000000000000000000000000001100
15 0010010000000010000000000000101
16 0000000000000000000000000001100
17 00000000010000000100000000100000
18 0010010000000010000000000000101
19 0000000000000000000000000001100
20 00000000010000000100100000100000
21 00000001001010000010000000100000
22 001001000000001000000000000001
23 0000000000000000000000000001100
24
```

c)



d)

