



DHA Suffa University
Department of Computer Science
Computer Organization & Assembly Language
Spring 2021
Lab # 07 (String Manipulation)

Objective:

To deal with strings in MIPS.

Assembly Code for taking string as an input and to output:

```
.data
string_space: .space 1024
.text
.globl main
main:

    la $a0, string_space    #taking string as input
    li $a1, 1024
    li $v0, 8
    syscall

    li $v0, 4              #printing the string
    la $a0, string_space
    syscall

    li $v0, 10
    syscall
```

Examples 1: (Count Letter 'm' in the word)

```
.data
name: .space 20
m: .byte 'm'
.text
li $t3, 0
li $t0, 0
la $t1, m
la $a0, name
li $a1, 20
li $v0, 8
syscall
```

```
move $t2, $a0
lb $t7, ($t1)
```

```
b Loop
Loop2:
add $t3, $t3, 1
j Loop
```

```
Loop1:
beq $t6, $t7, Loop2
```

```
Loop:
beq $t0, 20, exit
add $t0, $t0, 1
add $t2, $t2, 1
lb $t6, ($t2)
b Loop1
```

```
exit:
move $a0, $t3
li $v0, 1
syscall
li $v0, 10
syscall
```

Examples 2: (Count Letters in the word)

```
.data
name: .space 20
m: .asciiz ""
.text
li $t3, 0
# li $t3, -1
#li $t0, 0
la $t1, m
la $a0, name
li $a1, 20
li $v0, 8
syscall
```

```
move $t2, $a0
lb $t7, 0($t1)
lb $t6, 0($t2)
```

j Loop

```
Loop1:
add $t3, $t3, 1
add $t2, $t2, 1
lb $t6, 0($t2)
```

```
Loop:
beq $t6, $t7, exit
```

j Loop1

```
exit:
move $a0, $t3
li $v0, 1
syscall
li $v0, 10
syscall
```

LAB TASK 07

(1) Take a string as input from the user and tell whether the string is a palindrome or not.

(2) You are required to take a string as an input from the user and then count the number of Vowels present in the string.

Sample Input:

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Sample Output:

Number of Vowels present in the string are 7

(3) You are required to take a string as an input and count the number of words present in the string.

Sample Input:

Karachi is the largest city of Pakistan

Sample Output:

No. of words in the string are 7