**Bahria University, Lahore Campus**

Department of Computer Sciences

Lab Journal 09

**(Spring 2023)**

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| Course: | **Computer Architecture & Organization Lab** |  |
| Course Code: | CEL 221 | Max Marks: 15 |
| Faculty’s Name: | Maryam Munawar | Lab Engineer: |

Name: AFFAN AHMAD \_\_\_\_ Enroll No: \_03-134221-003\_

## Lab Tasks:

### Task1: 5 Marks

Swap- take two input parameters, swap them using only the XOR operation.

.text

.globl main

main:

ori $s0, $zero, 0x01234567

la $a0, output1

li $v0, 4

syscall

xori $s0, $s0, 0xffffffff

move $a0, $s0

li $v0, 34

syscall

la $a0, output2

li $v0, 4

syscall

xori $s0, $s0, 0xffffffff

move $a0, $s0

li $v0, 34

syscall

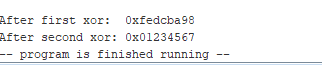
ori $v0, $zero, 10

syscall

.data

output1: .asciiz "\nAfter swapping xor: "

output2: .asciiz "\nAfter swapping xor: "



**Task 2: 5 Marks**

Mult10 - take an input parameter, and return that parameter multiplied by 10 using only add operations.

.data

a:.asciiz"enter the first number :"

b:.asciiz"enter the prime number number :"

r:.asciiz"0"

result :.asciiz"your result is :"

r2:.asciiz""

x:.word 10

.text

addi $t0,$zero,10

#mflo $t0

li $v0, 4

la $a0, a

syscall

li $v0 ,5

syscall

move $t1,$v0

li $v0, 4

la $a0, result

syscall

mult $t1,$t0

mflo $t3

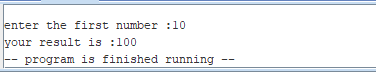
li $v0,1

move $a0, $t3

syscall

li $v0, 10

syscall



**Lab Grading Sheet :**

|  |  |  |  |
| --- | --- | --- | --- |
| **Task** | **Max Marks** | **Obtained Marks** | **Comments(*if any*)** |
| a. | 5 |  |  |
| b. | 5 |  |  |
| c. | 5 |  |  |
| d. | 5 |  |  |
| **Total** | **20** |  | **Signature** |

**Note : Attempt all tasks and get them checked by your Instructor**