**Computer Organization and Architecture**

**Post-Lab Report**

**Lab 02**



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| Class | Computer Organization and Architecture CPE343(**BCE-5B**) |
| Instructor’s Name | Dr. Adeel Israr |

POST LAB

Question:

Write the Total Marks program with separate strings for each input by using loop which runs four times. So, there should only be two syscalls inside the loop.

Solution:

I am attaching my commented code below,

#Title : Lab2Postlab. Filename: Postlab Lab2.asm

#Author: Muhammad Haris Irfan. Date: 26-09-20

#Roll Number: FA18-BCE-090 Description: Two syscalls in the loop

#Registers: $t1, $t2, $t3,$t4, $v0, $a0

################ Data Segment ##########################################

.data

msg1: .asciiz "Enter marks out of 25 (Q/A): "

msg2: .asciiz "Enter the marks out of 10 (Sessional 1): "

msg3: .asciiz "Enter the marks out of 15 (Sessional 2): "

msg4: .asciiz "Enter the marks out of 50 (Terminal): "

msg5: .asciiz "Result : "

###################### Code Segment ###########################

.text

main:

li $t1, 0 # temp var counter for loop

li $t2, 4 # exit condition

li $t4,0

##############################loop#######################

Loop:

beq $t1,0, first

beq $t1,1, second

beq $t1,2, third

beq $t1,3, fourth

first:

la $a0,msg1 #load

j here

second:

la $a0,msg2 #load

j here

third:

la $a0,msg3 #load

j here

fourth:

la $a0,msg4 #load

j here

here:

li $v0,4 #output

syscall

li $v0,5 #read integer

syscall

move $t3, $v0

add $t4, $t3, $t4 #adding total

add $t1, $t1, 1 #increment counter

bne $t2, $t1, Loop #if t1 is not equal to t2 then goto loop

####################loop end##########################

la $a0,msg5 #load

li $v0,4

syscall #output

li $v0,1 #integer output

move $a0,$t4

syscall

li $v0,10 #loads the service that exits

syscall

Graphical user interface, text, application, Word

Description automatically generatedThe result for this program is shown below,

Diagram

Description automatically generatedFlow chart of the task:

Critical Analysis/ Conclusion:

In This lab, we learnt about printing Strings using Syscall, Conditional execution of Loops and If-Else Statements. We also implemented these commands in Different tasks. Moreover, we also made handwritten Flowcharts for each task, depicting the working of our code.

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