Bahria University,

Karachi Campus

A picture containing text, room

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LAB EXPERIMENT NO.

**07**

LIST OF TASKS

|  |  |
| --- | --- |
| TASK NO | OBJECTIVE |
| 1 | **Write a program in MIPS assembly language that takes input from user and print whether the input is greater or less than 10 and shift input left and right 4 bits.** |
|  |  |
|  |  |

Submitted On:

**22-Dec-2021**

**Date: DD/MM/YY**

**Example Code 1**

**SOLUTION**

.data

.globl main

main :

bgez $t8,else

sub $s0, $zero, $t8

addi $t1,$t1,1

b next

else :

ori $s0,$t8,0

addi $t2,$t2,1

next :

Graphical user interface

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Graphical user interface

Description automatically generated

**Example Code 1**

**SOLUTION**

.data

input: .asciiz "\n type any number : "

rshift: .asciiz "\n number after right shift : "

lshift: .asciiz "\n number after left shift : "

.text

la $a0,input

li $v0,4

syscall

la $v0,5

syscall

bgez $v0,else

srl $t2,$v0,2

la $a0,rshift

li $v0,4

syscall

move $a0,$t2

li $v0,1

syscall

b end

else:

sll $t2,$v0,2

la $a0,lshift

li $v0,4

syscall

move $a0,$t2

li $v0,1

syscall

end: li $v0,10

syscall

Graphical user interface, text

Description automatically generated

Graphical user interface, application, table

Description automatically generated

**Task No 1:**  **Write a program in MIPS assembly language that takes input from user and print whether the input is greater-than equal to or less than 10 and shift input left and right 4 bits.**

**SOLUTION**

.data

in: .asciiz "Enter a number\n"

out1: .asciiz "Number is greater than 10\n"

out2: .asciiz "Number is smaller than or equal to 10\n"

o: .asciiz "\nNumber after right shift\n"

a: .asciiz "Number after left shift\n"

.text

la $a0,in

li $v0,4

syscall

li $v0,5

syscall

move $t0,$v0

li $t1,10

sub $t2,$t0,$t1

blez $t2,small

la $a0,out1

li $v0,4

syscall

b shifts

small:

la $a0,out2

li $v0,4

syscall

shifts:

sll $s0,$t0,4

la $a0,a

li $v0,4

syscall

move $a0,$s0

li $v0,1

syscall

srl $s1,$t0,4

la $a0,o

li $v0,4

syscall

move $a0,$s1

li $v0,1

syscall

li $v0,10

syscall

**Output:**

Graphical user interface, text, application

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