Bahria University,

Karachi Campus



LAB EXPERIMENT NO.

**05**

LIST OF TASKS

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| TASK NO | OBJECTIVE |
| 01 | Write the MIPS program that will ask for 3 integers from user and displays the result for each addition separately. |
| 02 | Write an MIPS assembly program that takes two 2-digit numbers from user and then add, subtract, divide as well as multiply them and then print the result. |
| 03 | Write MIPS assembly program that calculates your age by taking input of your birth year. |
| 04 | Write an MIPS assembly program that computes the speed of the car using the values of distance and time input by user. |
| 05 | Write an MIPS assembly program that converts minutes into seconds (minutes should be input by user). |

Submitted On:

**Date: 21/10/2023**

**Task No. 01:** Write the MIPS program that will ask for 3 integers from user and displays the result for each addition separately.

**Solution:**

.data

inputPrompt1: .asciiz "Enter the First Integer: "

inputPrompt2: .asciiz "Enter the Second Integer: "

inputPrompt3: .asciiz "Enter the Third Integer: "

outputPrompt1: .asciiz "Result of First Addition: "

outputPrompt2: .asciiz "\nResult of Second Addition: "

.text

main:

li $v0, 4

la $a0, inputPrompt1

syscall

li $v0, 5

syscall

move $s0 , $v0

li $v0, 4

la $a0, inputPrompt2

syscall

li $v0, 5

syscall

move $s1 , $v0

li $v0, 4

la $a0, inputPrompt3

syscall

li $v0, 5

syscall

move $s2 , $v0

li $v0, 4

la $a0, outputPrompt1

syscall

add $s3 , $s0, $s1

li $v0, 1

move $a0, $s3

syscall

li $v0, 4

la $a0, outputPrompt2

syscall

add $s4 , $s2, $s3

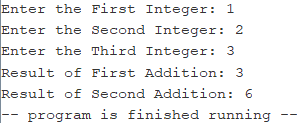
li $v0, 1

move $a0, $s4

syscall

li $v0, 10

syscall

**Output:**

**Task No. 02:** Write an MIPS assembly program that takes two 2-digit numbers from user and then add, subtract, divide as well as multiply them and then print the result.

**Solution:**

.data

inputPrompt1: .asciiz "Enter the First Number: "

inputPrompt2: .asciiz "Enter the Second Number: "

outputPrompt1: .asciiz "Addition Result: "

outputPrompt2: .asciiz "\nSubtraction Result: "

outputPrompt3: .asciiz "\nMultiplication Result: "

outputPrompt4: .asciiz "\nDivision Result: "

.text

main:

li $v0, 4

la $a0, inputPrompt1

syscall

li $v0, 5

syscall

move $s0 , $v0

li $v0, 4

la $a0, inputPrompt2

syscall

li $v0, 5

syscall

move $s1 , $v0

li $v0, 4

la $a0, outputPrompt1

syscall

add $s2 , $s0, $s1

li $v0, 1

move $a0, $s2

syscall

li $v0, 4

la $a0, outputPrompt2

syscall

sub $s3 , $s0, $s1

li $v0, 1

move $a0, $s3

syscall

li $v0, 4

la $a0, outputPrompt3

syscall

mul $s4 , $s0, $s1

li $v0, 1

move $a0, $s4

syscall

li $v0, 4

la $a0, outputPrompt4

syscall

div $s5, $s0, $s1

li $v0, 1

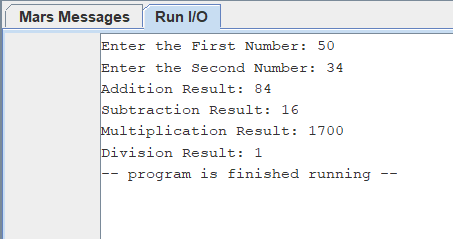
move $a0, $s5

syscall

li $v0, 10

syscall

**Output:**

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**Task No. 03:** Write MIPS assembly program that calculates your age by taking input of your birth year.

**Solution:**

.data

inputPrompt1: .asciiz "Enter your Birth Year: "

inputPrompt2: .asciiz "Enter the current year: "

outputPrompt1: .asciiz "Your age is: "

.text

main:

li $v0, 4

la $a0, inputPrompt1

syscall

li $v0, 5

syscall

move $s0 , $v0

li $v0, 4

la $a0, inputPrompt2

syscall

li $v0, 5

syscall

move $s1 , $v0

li $v0, 4

la $a0, outputPrompt1

syscall

sub $s2 , $s1, $s0

li $v0, 1

move $a0, $s2

syscall

li $v0, 10

syscall

**Output:**

*A screenshot of a computer

Description automatically generated*

**Task No. 04:** Write an MIPS assembly program that computes the speed of the car using the values of distance and time input by user.

**Solution:**

.data

inputPrompt1: .asciiz "Enter Distance: "

inputPrompt2: .asciiz "Enter Time: "

outputPrompt1: .asciiz "Speed of Car is: "

.text

main:

li $v0, 4

la $a0, inputPrompt1

syscall

li $v0, 5

syscall

move $s0 , $v0

li $v0, 4

la $a0, inputPrompt2

syscall

li $v0, 5

syscall

move $s1 , $v0

li $v0, 4

la $a0, outputPrompt1

syscall

div $s2, $s0, $s1

li $v0, 1

move $a0, $s2

syscall

li $v0, 10

syscall

**Output:**

**A screenshot of a computer

Description automatically generated**

**Task No. 05:** Write an MIPS assembly program that converts minutes into seconds (minutes should be input by user).

**Solution:**

.data

inputPrompt1: .asciiz"Enter time in mintes: "

outputPrompt1: .asciiz"Time in seconds: "

seconds: .word 60

.text

main:

li $v0, 4

la $a0, inputPrompt1

syscall

li $v0, 5

syscall

move $s0, $v0

li $v0, 4

la $a0, outputPrompt1

syscall

lw $s1, seconds

mul $s2, $s0, $s1

move $a0, $s2

li $v0, 1

syscall

li $v0, 10

syscall

**Output:**

A screenshot of a computer program

Description automatically generated