**Computer Organization & Architecture Lab**

**Lab Report # 03**



Submitted By: **AWAIS SADDIQUI**

Registration No: **21PWCSE1993**

Section: **“A”**

“On my honor, as student at University of Engineering and

Technology, I have neither given nor received unauthorized.

assistance on this academic work”



**Student Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Submitted to:

**Dr. Bilal Habib**

**Department of Computer Systems Engineering**

**University of Engineering and Technology, Peshawar.**

**ASSESSMENT RUBRICS COA LABS**

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| --- | --- | --- | --- | --- |
| **LAB REPORT ASSESSMENT** | | | | |
| **Criteria** | **Excellent** | **Average** | **Nill** | **Marks Obtained** |
| 1. **Objectives of Lab** | All objectives of lab are properly covered  [Marks 10] | Objectives of lab are partially covered  [Marks 5] | Objectives of lab are not shown  [Marks 0] |  |
| 1. **MIPS instructions with**   **Comments and proper indentations.** | All the instructions are well written with comments explaining the code and properly indented  [Marks 20] | Some instructions are missing are poorly commented code  [Marks 10] | The instructions are not properly written  [Marks 0] |  |
| 1. **Simulation run without error and warnings** | The code is running in the simulator without any error and warnings  [Marks 10] | The code is running but with some warnings or errors.  [Marks 5] | The code is written but not running due to errors  [Marks 0] |  |
| 1. **Procedure** | All the instructions are written with proper procedure  [Marks 20] | Some steps are missing  [Marks 10] | steps are totally missing  [Marks 0] |  |
| 1. **OUTPUT** | Proper output of the code written in assembly  [Marks 20] | Some of the outputs are missing  [Marks 10] | No or wrong output  [Marks 0] |  |
| 1. **Conclusion** | Conclusion about the lab is shown and written  [Marks 20] | Conclusion about the lab is partially shown  [Marks 10] | Conclusion about the lab is not shown[Marks0]  [Marks 0] |  |
| 1. **Cheating** |  |  | Any kind of cheating will lead to 0 Marks |  |
| Total Marks Obtained: \_\_\_\_\_\_\_\_\_\_  Instructor Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | |

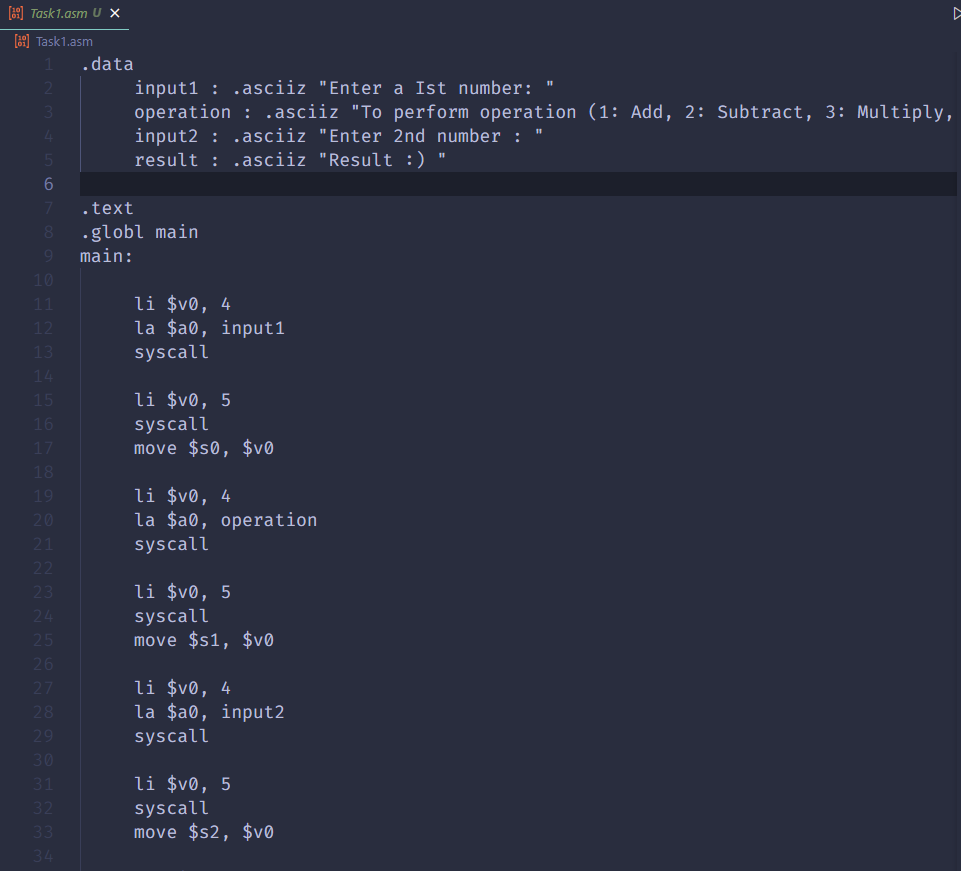
**Branching Operation**

**Task 01:**

**Take the 1st number from the user. Then take a number to do the operation. Then finally take a 2nd number from a user.**

**Code:**

**a)**



**b)**

A screenshot of a computer program

Description automatically generated

**Output:**

A computer screen shot of a computer code

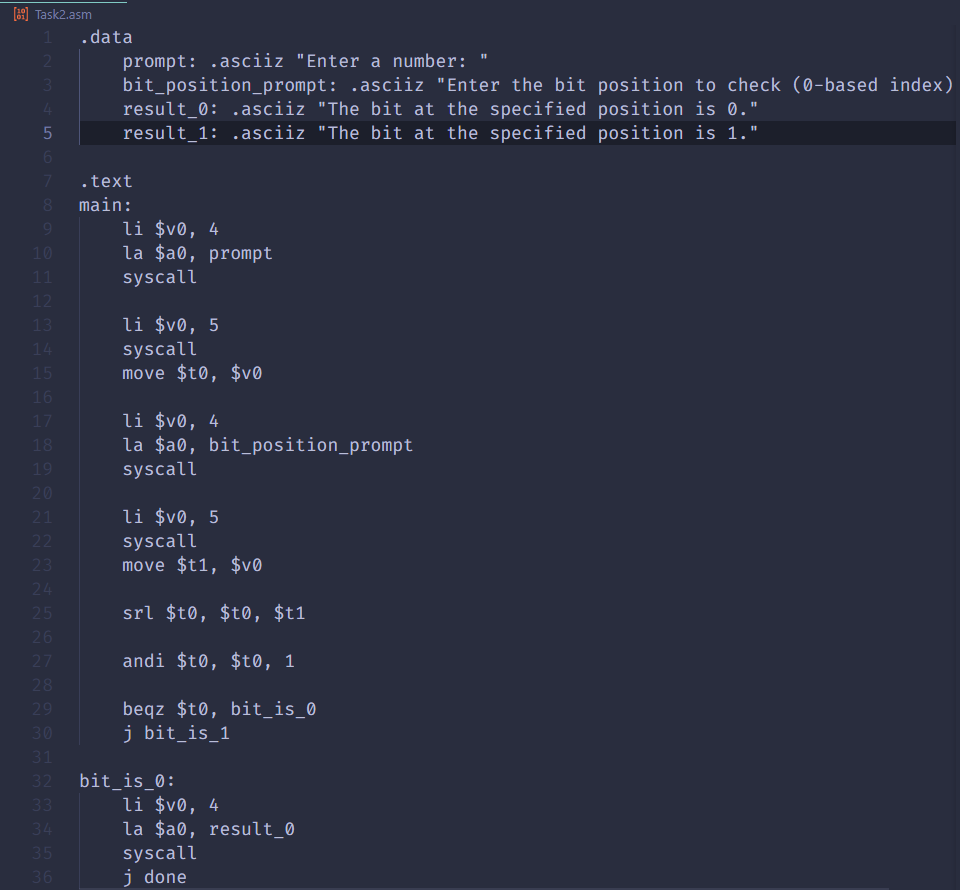
Description automatically generated

**Task 02:**

**Write a program that’s show the bit position of a number is 0 or 1. (Hint if number is 5**

**it is represented by 0101 show the 4th bit position is 0, similarly if the user enters 9 then the binary equivalent is 1001. In this case the 4th bit position is 1).**

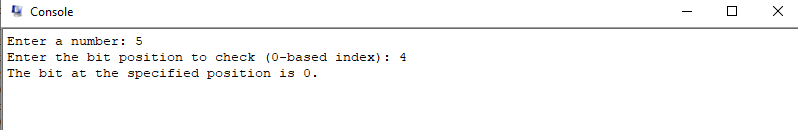
**Code:**



A blue square with white text

Description automatically generated with medium confidence

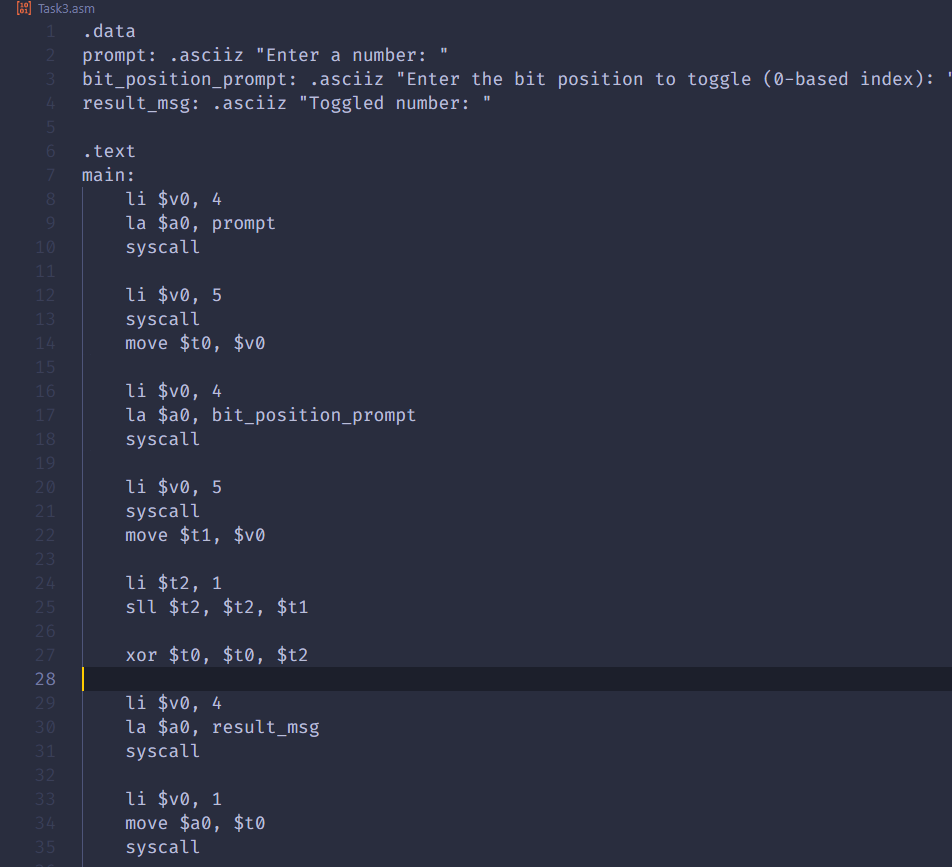
**Output:**

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**Task 03:**

**Now toggle the bit find in the previous task if the bit is 1 set it to 0 if it is 0 then set it to 1.**

**Code:**



**Output:**

**A computer screen shot of a computer

Description automatically generated**

**Task 05:**

**Show that shifting left of an even number by 1 position is a multiplication by 2 and**

**shifting right of an even number by 1 position is a division by 2. (Hint: Use sll and srl).**

**Code:**

A screenshot of a computer program

Description automatically generated

**Output:**

**A white background with a black line

Description automatically generated with medium confidence**

**A long thin metal bar

Description automatically generated with medium confidence**