

School of Computer Science Engineering and Technology

Course - B. Tech.	Type - Core
Course Code - CSET203	Course Name - Microprocessor & Computer Architecture
Year - 2023	Semester - Odd (3rd)
Date – / 09 / 2023	Batch- 2022-2025

CO-Mapping

	CO1	CO2	CO3
Q1	✓		
Q2	✓		
Q3	✓		
Q4	✓		
Q5	✓		

Objectives

This laboratory session aims at learning the syntax of **for-loop** and use it in simple MIPS programing question solutions. This will enhance the assembly language programming skill and problem-solving technique.

Questions:

1. Write a MIPS Assembly language program to find Sum of first N-Odd natural Numbers using **for_loop**.

Hints: [1+3+.....]

Input: **Enter value of N: 7**

Output: **Sum of first 7-Odd Number = 49**

2. Write a MIPS Assembly language program that prompts the user to input an integer, and check whether it is positive. If so, then find the factorial of the given number using **for_loop**.

Hints:

Input: **Enter a positive integer: 5**

Output: **The factorial is: 120**

3. Write a MIPS program to print star Pyramid of height 'N' (user input) as shown below (for N=4)

Hints:

Input: **Enter height of pyramid: 4**

Output:

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  *
 * *
* * *
```

* * * *

4. Write a MIPS Assembly language program for checking if a user given number is prime or not.

Hints:

Input: **Enter a number: 5**

Output: **This is a prime number!**

Input: **Enter a number: 6**

Output: **This is not a prime number!**

5. Write a MIPS assembly language program for finding Maximum (Max) and Minimum (Min) values of the given array.

Hints:

Input: [5, 7, 12, 3, 4, 9, 6, 11, 2, 10] given in program

Output: **Max: 12**

Min: 2

Submission Instructions:

1. Submit your **.asm** files in your respective batches in LMS. Save all the files as per the format **RollNo_Lab #_QuestionNo.asm** (Example: **E21CSE0356_Lab5_Q2.asm**).
2. Write your Name and Roll No. as comment before starting each program.
3. Make sure that in each program, you have mentioned enough comments regarding the explanation of program instructions.
4. In the LMS please submit in your respective batch's submission portal. Submission in other batch's submission portal will not be checked.
5. Write your Name and Roll No in the .asm file itself (Use # to insert comment lines).
6. Without this you will score zero for that question.
7. Late submission will lead to a penalty.
8. Any form of plagiarism/copying from peer or internet sources will lead to a penalty.