Shanto-Mariam University of Creative Technology

Department of Computer Science and Engineering

Course Code: CSE1102	**Credits: 1.5**
Course Name: Structured Programming	**Semester: Winter 2024**
Instructor: TOUSIF HASAN LAVLU	**Email: tousif.lavlu@smuct.ac.bd**

Lab 4

CSE1102 Review

I. Topic Overview:

The students will be able to learn conditional statements and some problems.

II. Lesson Fit:

There is a prerequisite to this lab. However, it is a practical lesson for the theory covered in the first week of course activity.

III. Learning Outcome:

After this lecture, the students should have a sound knowledge on:

a. Input/output related problems

b. Some mathematical related basic problems

V. Acceptance and Evaluation

Students will show their progress as they complete each problem. They will be marked according to their class performance. There may be students who might not be able to finish all tasks, they will submit them later and give a viva to get their performance mark.

VI. Activity Detail

Hour: 3

Discussion:

Students will try to solve all of the problems during class time. Students will try the unsolved problems at home.

Problem: There are 10 problems.

VII. **Deadline:** Students need to submit all of the solved problems in the google classroom before the deadline.

LAB 04

Task 1

You need to write a C program to Check Whether a Number is Positive or Negative or Zero.

Task 2

Write a C program to Find the Largest Number Among Three Numbers

Task 3

You need to print the sum & average of the given number of inputs. You need to print the average with three places after the decimal point

Task 4

Write a c program to check whether a number is divisible by 5 and 11 or not.

Task 5

Write a c program to check whether a number is divisible by 3 or 7 or not.

Task 6

Write a C program to check Leap Year

Task 7

Write a C program to calculate Compound Interest of given inputs.

Formula to calculate compound interest annually is given by.

where,

P is principal amount,

R is the rate and,

T is the time span in year

Task 8

Write a C Program to swap two numbers.

Optional Task1: Swap two numbers without declaring a third.

Optional Task2: Swap two numbers using a pointer.

Task 9

A Number is a ***palindrome*** if it reads the same in both directions. For example, 35724 is not a palindrome; however, the following one is. 42624

Write a C program that reads a number and check if it is a palindrome

Task 10

You need to write a C Program to Check **Armstrong Number**. For example, 153 is an Armstrong number of 3 digits, since the sum of cubes of each digit is equal to the number itself. As shown below: 1*1*1 + 5*5*5 + 3*3*3 = 153.

Task 11

Write a C program to check whether a character is uppercase or lowercase alphabet.

Task 12

Write a C program to calculate the below grading system using if else statement. After checking each condition you need to print the letter grade and grade point only

Numerical grade or Percentage (%) of Marks	Description	Letter grade	Grade point
80% and above	Excellent	A+	4.0
75% to 79%	Very Good	A	3.75
70% to 74%	Good plus	A-	3.5
65% to 69%	Good	B+	3.25
60% to 64%	Good minus	B	3.0
55% to 59%	Quite satisfactory	B-	2.75
50% to 54%	Satisfactory	C+	2.5
45% to 49%	Barely satisfactory	C	2.25
40% to 44%	Barely adequate / Weak	D	2.0

Optional Task

1

Write a C program to check whether a number is **prime** or not. A prime number is defined as a natural number greater than 1 and is divisible by only 1 and itself. First few prime numbers are 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31,37,43 . . .

2

Write a C Program to Print Fibonacci Series up to Nth term.