



United International University

Department of Computer Science and Engineering

CSE 2218 (A): Data Structures and Algorithms II Laboratory

Trimester: Fall 2023

Class Performance 1 - Set A, Total Marks: **30**, Total Time: **30 minutes**

Any examinee found adopting unfair means will be expelled from the trimester/program as per UIU disciplinary rules.

[15 marks] Question 1: Imagine you are working on a school project with a group of friends to organize a charity fundraiser. To keep track of the funds collected, you've decided to use a unique method for counting the donations received.

In this method, each donor's name is represented as a string, and within each name, there are hidden digits that correspond to the amount donated. For example, the name "JohnDoe45" / "John45Doe" / "45JohnDoe" implies that John Doe donated \$45.

To automate the process and find the total donations, you need to develop a C++ program that extracts the hidden donation amounts from the names and calculates the sum of donation digits.

INPUT	OUTPUT
JohnDoe45	9
32Anna91Frank	15

[15 marks] Question 2: Imagine you are a teacher preparing for a math challenge at your school. You've introduced the concept of "Good Numbers" to your students, which are defined as follows:

i) A Good Number is any number that is twice a Prime Number + 1.

You will give them a list of numbers and ask them to identify and calculate the sum of the Good Numbers within that list.

Your task is to create a recursive function (for checking prime numbers) to help your students identify and calculate the sum of Good Numbers in the list.

INPUT	OUTPUT
5 11 0 1 5 22	11 5 16