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 B, 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: Think of yourself as someone designing a security system for a secure building. You must create a voice recognition system if you want to guarantee that only authorized personnel can enter. You get voice commands in this system as strings. It is your responsibility to build a recursive function that determines whether a voice command is a valid passphrase. A valid passphrase must be a palindrome, which must be case-insensitive, ignore white spaces, and read the same forwards and backwards. Create a function that, if the input passphrase is correct, returns "Access Granted", and, if not, returns "Access Denied".

INPUT	OUTPUT
Ab cCb A	Access Granted
Ab cCb bA	Access Denied

[15 marks] Question 2: Imagine you're organizing a community event where participants need to fill out registration forms. Each form contains an identification number, represented as an integer. You're in charge of verifying these forms and need to check if the identification numbers provided contain even digits.

Your task is to create a recursive function that counts the number of even digits in the identification number. Write a function that takes the identification number as input and returns the count of even digits within that number.

INPUT	OUTPUT
21467	3
3654825	4