Lab 5 *(Due: May 25)*
C++ Programming - COSC 2321

Department of Computer Science and Electrical Engineering

Summer Session I, 2022

Exercises

*Create a **New Project** for every exercise. Take a screenshot of the source code along with its output and place the **source code** and the **screenshot** in a **zipped folder** named **LastNameFirstName_Lab5***

Exercise 1

From **main**, call function **transposeMatrix** where the user enters integers into a 2×4 matrix. Function **transposeMatrix** is a *void* function, that is, it returns nothing to the caller. From **main**, call function **printTranspose** where you print the **transpose** of the matrix/array entered. **printTranspose** accepts the array as a parameter and returns nothing, that is, it is a *void* function

Exercise 2

Ask user to enter integers into a 2D array with dimensions 3×3. Using a **separate** loop, print the values of each one of the elements along with their addresses both in **hexadecimal** and in **decimal**. *What do you notice when addresses are printed in decimal?*

Note: You can use **printf** along with the format specifiers of **%d** and **%x**, for decimal and hexadecimal notation, respectively

Exercise 3

Ask user to enter two integers. Create three different **swap functions** that swap the two numbers using: **call-by-value, call-by-reference** and **call-by-pointers**. Print swapped values from within functions

Exercise 4

Enter numbers into a **5-element int** array. Pass array into **myArrayFunction** where it computes the average of all the elements and stores the result into the first element of the array. **myArrayFunction** returns nothing, i.e., it is a void function. Print the contents of the array from within **main**

Note: Submit through **Canvas**