Lab 7 *(Due: May 27)*
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_Lab7***

Exercise 1

In **main** create a **vector** and initialize it with the following integers: $10, 20, 30, 40, 50$. Print vector using a **range-based for loop**. Pass vector to **myFunction** which is a **void** function. Modify the first element of the vector to 1 and **add** element with value 60 to the end of the vector. Print vector from within **main** after the function call to **myFunction**. *What do you notice?*

Note: This is how you accept a vector in a function (formal parameters): *void myFunction(vector <int> numbers)*

Exercise 2

Similarly to Ex. 1, pass the **vector** to function **by-reference** and repeat all steps of Ex. 1 (e.g., modify and elements, print contents of vector, etc.). *What do you notice?*

Exercise 3

Create an **int** array of size 5 (SIZE should be defined as a **preprocessor directive**) initialized with zeros and pass the array and its size to function **myFunction**. Inside my function use a pointer to point to the array and modify the elements of the array using only a pointer to $10, 11, 12, 13, 14$. Return the address of the middle element of the array to **main** and print -from main- all elements past middle element

Note: Your algorithm should return the address of the middle element of **any array** irrespective of the array size (assume odd-sized arrays)

Exercise 4

Similarly to Ex. 3, your array should now be accepted by **myFunction** as a **const int** array. *What do you notice when you try to run the program?*

Note: The same goes when you define the array in **main** as a **const int** array

Note: Submit through **Canvas**