**CS:2820 Object Oriented Design Spring 2020**

**HW # 3: Inheritance and Templates**

Submission due date: Tuesday, March 10th 11:59pm.

NOTE: NO LATE SUBMISSIONS ALLOWED FOR THIS HW.

In this homework, you are given an abstract class called “Container”. It contains several pure virtual methods. The methods are: add, remove, size, and print\_container.

The Container class also is using templates. I also declared two class, LiunkedList and DynamicArray, where they both inherit Container interface. You already wrote code for DynamicArray as a class in your hw, and for LinkedList in one of the discussion sessions. So, you need not write extra code.

You need to fill in the code for the required methods in both given classes from your hw:

* add will add at the end of the container,
* remove will remove the given element,
* size will return the size of the container
* print\_container will print the elements saved in the container.

There is really no need to change much in your methods, you just need to make them work after inheriting Container, and with templates instead of just plain integers. The changes here are really minimal. The point of the hw is to become familiar with inheritance, runtime polymorphism, and templates usage. No algorithmic challenges or anything.

You already have a solution for linkedList class in discussion 4; I will post a sample solution for dynamic arrays later this weekend too. If you do not have a correctly working hws, you might use the provided solutions in this hw.