# Data Structures Lab – Ordered List - Singly Linked

## Overview

Implement a *linked-based ordered list* of int.

#### Part 1

- 1. Create an OrderedListLinked class.
  - a. Add any necessary inner classes.
  - b. Add private member variables as necessary.
- 2. Implement the following methods:
  - a. Default constructor
  - b. void insertItem(int data) // Add an item to the list
  - c. void show() // Shows all list data on screen
- 3. Inside of main you should create an instance of OrderedList. You should add and remove items from the list. Make sure you call the show() method after you add items.

## Part 2

- 1. Implement more of the *Ordered List* of int. Here are the public methods:
  - a. Constructor that takes an OrderedList as a parameter. It should make a deep copy of the data in the list parameter. Note: The order of elements does not matter since the list is ordered.
  - b. void copy(OrderedList source). It should make a deep copy of the data in the list parameter.

## Part 3

- 1. Implement more of the *Ordered List* of int. Here are the public methods:
  - a. void makeEmpty()
  - b. int getLength();
  - c. boolean hasItem(int target)

## Part 4

- 1. Implement more of the *Ordered List* of int. Here are the public methods:
  - a. void deleteItem(int target) // Removes an item from the list
  - b. bool isFull()

## Part 5

Update the OrderedList class so that it uses generics. You should be able to create instances of OrderedList that can store any data type.