Data Structures Lab – Ordered List - Array

Overview

Implement an *array-based ordered list* of int.

Part 1

- 1. Create an OrderedListArray class and add private member variables for the array and for the "logical" size of the list.
- 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/remove items so that the change in the list can be seen by the user.

Part 2

Implement more of the *Ordered List* of int. Here are the public methods:

a. void deleteltem(int target) // Removes an item from the list

Part 3

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.
- b. void copy(OrderedList source). It should make a deep copy of the data in the list parameter.

Part 4

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

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.