Data Structures Lab – Stack (linked)

Overview

Implement a stack of int using a **link-based** implementation.

Part 1

1. Create a StackLinked class and add private member variables as necessary for a link-based stack.
2. Implement the following functions:
    a. Default constructor
    b. void push(int item) // Add an item to the stack
    c. int pop() // Remove an item from the stack
    d. void show() // Shows all stack data on screen
3. Inside of main you should create an instance of StackLinked. You should push and pop items on to the stack. Make sure you call the show method a few times to show how the contents of the stack changes.

Part 2

1. Implement more of the StackLinked methods
    a. void makeEmpty(); // Clears the stack
    b. boolean isEmpty(); // Is the stack empty true/false
    c. boolean isFull(); // Is the stack full true/false

Part 3

1. Implement more of the StackLinked methods
    a. Constructor that takes an StackLinked as a parameter. It should make a deep copy of the data in the stack parameter.
    b. void copy(StackLinked source). It should make a deep copy of the data in the stack parameter. Data should be in the same order as the source stack.

Part 4

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