Programming, and Data Structures

Workbook 2 – Stacks and Queues

This worksheet WILL be graded. Be sure to use the Class template design provided in Average.java from Workbook0.

Before you begin.

1. Ensure that your workspace is in a folder which is backed up to the web/ network e.g. college network drive, google drive. You may like to have it in the following folder structure …/GriffithCollege/PDS/workspace
2. Load Eclipse selecting the appropriate workspace
3. Make a new java project called Workbook02
4. Make a new package in this project called workbook02
5. Make a 3 new java files with the name provided below.

**Tasks**

1. **Stack.java** Implement a Stack in Java. Use an array. Your stack should have push, pop, isfull and isempty and top methods. You can choose what the parameters & return type of these functions are. In your main method use each of the methods, and test out your Stack. The Stack should be able to store integers. N.B. What should the difference between pop and top be?
2. **NaiveQueue.java** Implement and test our naïve Queue approach, as discussed in the lecture notes. Create enqueue, dequeue, isEmpty, isFull methods, and test them in the main method.
3. **CircularQueue.java** Implement and test our Circular Queue approach, also discussed in the lecture notes. Create enqueue, dequeue, isEmpty, isFull methods, and test them in the main method