COMP 2231_SW3 - Data Structures and Algorithms (Fall 2020 Carruthers)

Assignment 3: Lists & Iterators (8%)

This programming project should be completed and submitted by Monday of Week 8 if you are following the suggested course schedule. It is worth 8% of your final grade. Please refer to the "Assessments Overview" tab for details on submission of your work. Your overall course assessment information is found in your Course Guide.

For the questions below, use the classes defined in `java.util` rather than the list classes developed in the textbook. Make the container in your stack or queue class of the type indicated—do **not** use inheritance. You must implement the `StackADT` and `QueueADT` interfaces from the textbook. Code a separate driver for each question, but use the same testing values. Make sure you demonstrate each of the methods for the respective interface.

1. Implement a stack using a `java.util.LinkedList`. (Adapted from PP 15.2.)
2. Implement a stack using a `java.util.ArrayList`. (Adapted from PP 15.3.)
3. Implement a queue using a `java.util.LinkedList`. (Adapted from PP 15.4.)
4. Implement a queue using a `java.util.ArrayList`. (Adapted from PP 15.5.)

   Hint: Many of the methods will require just a call to a corresponding method for the list being used; for example, `push()` would invoke a `.add()` method for the `LinkedList` or `ArrayList`.

Assignment Marking Criteria	Weighting
Correctness of solution: Algorithm is implemented and produces correct results for the stated problem.	/4
Testing: Submission of test exhibits to indicate the solution works for a range of cases (e.g., minimum and maximum inputs) and handles unexpected exceptions.	/2
Comments and documentation: Source code contains comments that explain in plain English what the code is intended to do.	/2
Total	**/8**

Note

Javadoc style is not required.

Submission status

Attempt number	This is attempt 1.

Submission status	No attempt
Grading status	Not graded
Last modified	-
Submission comments	▸ Comments (0)

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You have not made a submission yet.

◀ Assignment 2: Stacks & Queues (8%)

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Assignment 4: Trees & Binary Search Trees (8%) ▶

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