Lab 07 Queue

You **MUST NOT** modify any existing codes in all given templates unless the instruction allows you to do so.

The interface **MyQueue** (with all method explanations) and class **QueueArray** are given.

1. (6 marks) In class **QueueArray**, write method **reverse()**. This method reverses the order of data stored inside the queue. For example, if the queue originally stores 6,7,8,9 (6 being the front value), the method will change the order to 9,8,7,6. Use class QueueArrayTest to test your code.
2. (4 marks) A priority queue is a queue that is arranged such that the most important value is always retrieved first. In this exercise, the smallest value is the most important. The Priority queue has the following methods:
   - **push(int x)**: insert new data x into the priority queue. The data must be added so that the smallest data is retrieved first by method top() and pop().
   - **pop()**: remove the smallest data.
   - **top()**: return the smallest data.

Implement these methods in the provided PriorityQueue class. Your code **must not** assume any implementation of a queue. **Use variable q as MyQueue only, do not cast it to another type.** You can test your code by using class **PriorityQueueTest**.

How to submit:

Submit a jar file exported from your project (the jar file must include all your java files) to Courseville (package all files together and name it **YourID_Lab07** where YourID is your student ID).