

### *Assignment 1*

Assigned on February 7, 2006

Due on February 21, 2006

1. Design and implement a class named *PriorityQueue* based on an array of integers. The class should support the following methods:

- a. `public void insert(int value);` // insert integer *value* into the priority queue
- b. `public int delete();` // delete and return any largest value in the queue
- c. `public boolean isEmpty();` // return true iff the queue is empty

The number of integers that can be inserted into the priority queue should only be limited by the capacity of your computer's memory system.

2. Write a class *TestPriorityQueue* to test out your class *PriorityQueue*. You can insert 100 random integers into a *PriorityQueue* object and then delete and print out all of them to see whether the integers are printed in decreasing order.

The assignment is also posted in forum *Assignments* inside *Discussion Board* of *CS122/504 Blackboard*. Submit a single zip file of all of your completed source code files as an attachment to your reply to my *assignment 1* thread.

Please add assignment name, your name, your assignment completion date, and the above assignment problem description as comments at the beginning of your source code.

Please make sure that your program works correctly, and the source code is formatted properly with proper column alignment and line indentation. Add necessary concise comments to your tricky points for helping readers understand your program. There will be penalties for lacking necessary comments or improper code alignment or indentation.