Program #5: Queue

For this assignment, I want you to create and submit a `Queue.java` file in which you implement a queue class. This queue should ONLY have the following operations as defined in our lectures.

1. Enqueue: insert an item at the end of the queue

2. Dequeue: delete an item from the beginning of the queue (and return it)

3. Peek: return (but do not delete) the item at the beginning of the queue

4. Size: return the size of the queue

5. IsEmpty: return whether the queue is empty

6. IsFull: return whether the queue is full

7. Equals: compare two queues

8. Add: concatenate two queues

In addition, it should have a constructor, a copy constructor, and output capability i.e.

9. `Queue()`

10. `Queue(Queue s)`

11. `String toString()`

You are to build this queue ON TOP of your `List.java` from Assignment #5. In fact, the only **member variable** your queue class will require is a generic list. To do this, make sure that you have a copy of `List.java` in the same folder as the `Queue.java` file you're creating.

- For this assignment, you will be provided with two files:
  - `QueueTest.java` contains the `main` function. You may **NOT** modify this file!
  - `QueueTest.out` contains the output from my implementation of the queue. You would be wise to ensure your output is **EXACTLY** the same (That includes spacing and formatting).

- Recall that the only file you will submit is (`Queue.java`). If you have implemented it correctly, It should work with my version of `List.java`

- Label the file by typing your name in a commented section at the top of the `Queue.java` file.

- Compiling `QueueTest.java` should automatically use your `List.java` and `Queue.java` files (assuming they are in the same directory). After successful compilation, executing the `QueueTest.class` file SHOULD produce output identical to `QueueTest.out`.

- Feel free to redirect the output to a file of your choosing, and then compare the two files (i.e. `QueueTest.out`, and your output file) using the command prompt. For example, once completed, the three commands below should **NOT** produce any output.

Linux:

```
javac QueueTest.java
java QueueTest > myOutput
diff QueueTest.out myOutput
```

Windows:

```
javac QueueTest.java
java QueueTest > myOutput
fc QueueTest.out myOutput
```