CSE 332 Project 1 Write up

Your Name
Your UW NetID

1. **Who and what did you find helpful for this project?**

2. **How did you test that your stack implementations were correct?**

3. **The file secret.wav is a backwards recording of a word or short phrase. Use sox (or another converter) and your program to reverse it, and write that as the answer to this question.**

4. **Other than java.util.EmptyStackException, did you use any classes from the Java framework or other class library?**

5. **Your array stacks start with a small array and double in size if they become full. Assuming the computer had enough memory, how many times would this resizing occur (explain how you got the answer) for a .dat file with:**

   a) One million lines?

   b) One billion lines?

   c) One trillion lines?

6. **How might you implement QueueStack (i.e. simulate a Stack using Queue as internal data structure) with one or more instances of a FIFO Queue? Assuming your Queue class provides following operations: enqueue(), dequeue(), isEmpty(), and size(), implement push() and pop() operations of QueueStack.**

```
public class QueueStack implements DStack {
   private int size;
   // TODO: Add necessary fields

   public QueueStack() {
      this.size = 0;
      // TODO: initialize your fields
   }

   public void push(double d) {
      // TODO: Implement this method
   }

   public double pop() {
      // TODO: Implement this method
   }

   // Assume other methods (peek & isEmpty) are implemented
}
```

7. **Why would a stack implementation using a queue, as you described in the previous problem, be worse than your array and linked-list stack implementations? Explain in terms of asymptotic bounds.**

8. **In the process of making your generic stack implementations from your non-generic ones, what sort of errors did you encounter and how did you resolve them?**

9. **How much did you have to understand about the code in `Reverse.java` to make the changes to use your generic stacks?**

10. **If you did "Above & Beyond", describe each of your extra credit implementations in detail.**

11. **What did you enjoy about this assignment? What did you hate? What could you have done better?**

12. **Anything else you would like to include?**