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?**