CS 251 - Lab 004

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Website: **http://cs.unm.edu/~kageweiss/TA/cs251.html -- SLIDES POSTED**

- Sign in sheet located on desk by TA
- Today we are working on Line Sorter (Lab 6)
  - **Please review any grade comments you may have, if you are still in need of a Lab 2 grade, I am working to get that resolved with your TA.**

How I Grade Your Code:

- Chenoweth provides the rubric and occasionally tester code.
- I write tester code that thoroughly tests your code.
- If your code runs as expected with my tester, I'm happy.
- I then review your code (.java) to make sure it follows CS251 Code Standards.
  - That means variable and method names, comments, privacy, **NO TABS**, etc.
- I **can** tell how much work you put into your code.
- I can tell who didn't cite StackOverflow.
- If you obviously put work in, I'm happy to give points and comments!
- If you obviously didn't put work in, I have to really look at your code and end up finding (and counting off for) minor infractions.
- Every point I take off is listed in the comments for the grade. **Read them**.

Line Sorter

- WORK ON UNDERSTADING FILE IO, if you can't import the files properly, it will never work.
- Remember Collections? Not Collection, Collections. It has a bunch of useful methods that say, if you were to store a bunch of information in a Collection you could do things with it…
  - Specifically remember your String methods and Collections methods. Like we said for the exam, they're **super** useful
- Remember Scanners? Reading in from the console (not command line args)? Scanners, among other things, can read from files…
  - Remember loop conditions?
    while(test) || for(initialization; test; increment),
    what if our test was something like "do we have more to read?"…

Line Sorter

- Import the file as lines
  - There are tons of ways to do so, just make sure it works
- Sort your output
  - You can choose to do all the sorting yourself, but you don't have to reinvent the wheel, there are plenty of ways to make it easier
  - Comparator<String> is a good start, and Collections javadocs
    - Understand the difference between Compar -able and -ator
  - Try printing to the console before you output so you know it sorts
- Output the sorted file
  - Tons of ways to do this too, and not always the same form you used for inputting

```java
/**
 * @version date ( in_CS_XXX_00X format : YYYY - MM - DD )
 * @author FirstName LastName
 **/

/** My class ClassName does ... */
public class ClassName {

    private memVarType memberVariable;

    /**
     * Getter for specified member variable.
     * @return this.memberVariable The memberVariable of this instance
     */
    public memVarType methodName() {
        return this.memberVariable;
    }
    /**
     * What does this method do?
     * @param param1 What is this parameter?
     * @return What are we returning?
     * @throws ExceptionName Why are we throwing this/what triggers this?
     */
    public varType methodName2 (memVarType param1) throws ExceptionName {
        if(param1 == this.memberVariable) {
            for(int i = 0; i <= param1; i++) {
                System.out,println(i + ". Our var = " + this.memberVariable)
            }
            throw new ExceptionName(ExceptionParameters);
        }
        return (this.memberVariable + param1);
    }
}
```

Info Block, tells who/when/what

Method is public, so it gets a JavaDoc comment

Method is public, so it gets a JavaDoc comment, this one's a bit longer because it has three fields

Indentations must be spaces, NOT Tabs

```java
import java.all.my.imports.*; // What imports from java do I need?
import cs251.interface; //(this isn't the import, but you need one)
/**
 * @version date ( in_CS_XXX_00X format : YYYY - MM - DD )
 * @author FirstName LastName
 **/
public class Demo {
    private NestedClass variable;
    private OtherCollection otherVariable;
    /** What my constructor does to prepare a new instance */
    public Demo() {
        this.variable = new NestedClass();
        this.otherVariable = prepareNewCollection();
    }
    /** This is that preparation method so we contain everything.
     * @return OtherCollection our own custom collection */
    private OtherCollection prepareNewCollection() {
        OtherCollection output = new OtherCollection();
        output.
        return output;
    }
    /* This is a nested class, it's private so no javadoc comment needed,
     * but we can say what it does here to make life easier */
    class NestedClass extends Collection implements ThatInterfaceWeAreUsing {
        @Override
        public int ThatOneMethodFromInterface() {
            return 9001;
        }
        @Override
        public double OtherMethodFromCollection(Collection args) {
            double[] math = /* oh hey we did something with args here*/;
            return math;
        }
```

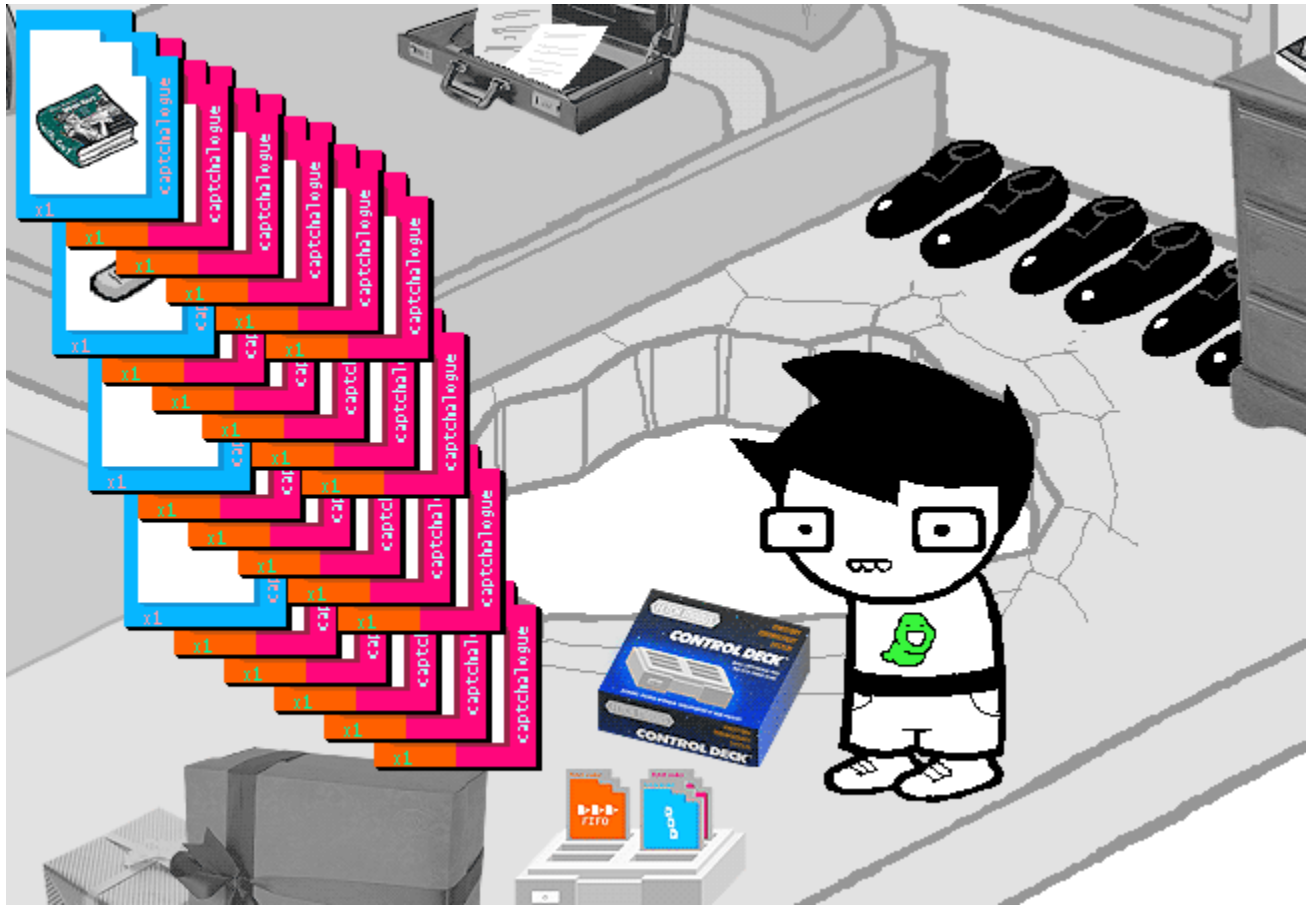
Info Block, tells who/when/what
No room on the slide, but you need a class comment too.

Constructors you write need comments too

Method is public, so it gets a JavaDoc comment.
It takes no arguments, but what does it do?

Nested class is private, so no need for JavaDoc, but comments are still a part of documenting your code, what is this class?

Collections



An ARRAY of distinct QUEUESTACKS.

This is just the sort of needless complexity you have come to expect from your PERSONALLY CREATED COLLECTIONS.