CSCI1320 Final Review Sheet

The final for this class will be a bit longer than the midterm. It will explicitly focus on the material from the second half of the semester, though material from the first half will be included implicitly as it is needed to answer questions. The final will have 10 regular questions and one extra credit question. The style of questions will be similar to what you have seen before with short answer, code writing, and tracing of code. You can bring in a one page cheat sheet and you will be able to access both the Java and Scala APIs during the test.

Topics:

Files
> You need to know how to use files in code as well as what they are good for. If you have to write code involving files you don't have to have the function call syntax perfect, but it needs to be close enough that I can understand. It should definitely include the right names of the functions.

Case Classes
> Know how to declare and use case classes.

Mutable and Immutable
> Understand the difference between mutable and immutable data. Be especially aware of what impact this difference has on data passed into functions.

GUIs
> Be able to write code that will create a simple GUI and have it do something simple in response to user interaction.

Sorting
> You need to understand how each of the three $O(n^2)$ sorting algorithms works. You should be able to write the code for them using loops or recursion.

Searching
> Know how sequential and binary searches work. You need to know when each one can or should be used and be able to describe why the binary search is faster.

XML
> Understand the advantages of XML over flat text files. Also know how to parse out data from XML as well as how to build XML nodes from data.

Recursion
> Know how to write and trace recursive functions. You should also understand when recursive functions can/should be used to aid in problem solving. How do they compare to loops and when are they superior to loops?

For all language features, you need to know how to use them both in writing code and be able to trace code that involves them.