**Final Exam Review Points**

The final exam will allow you access to anything you want to put on your laptop, but there will not be internet access. You will have 15 minutes at the beginning of the exam day to load up materials that you want from the network or web before the exam begins, and then the network will be disabled. You may also bring books or notes.  
  
The exam will consist only of programming questions of the following kinds:

1. Overriding equals and also sorting using Comparators (best to use comparing and thenComparing), following best practices (i.e., comparisons should be consistent with equals) (Slide 14 of Lesson 9.) You should be ready to override hashCode() whenever you override equals()
2. Solve a problem using a stream pipeline; then generalize your solution to a Lambda Library element. Finally, replace lambdas with inner classes. (Like the quiz)
3. Given a lambda expression, find an appropriate type for it, name it with a (typed) variable, rewrite it as a method reference, state which type of method reference it is, and finally, rewrite the lambda expression as an inner class that implements the functional interface that represents the lambda expression. (Like Lab 8, Problem 6)
4. Write code that handles a situation in which one of the lambdas in a stream pipeline needs to throw a checked exception but cannot because the functional interface it implements does not permit an exception to be thrown (use one of the techniques mentioned in Lesson 10; see Problems 5 and 6 in Lab 10).
5. Use the reduce method on Streams to solve a problem.
6. ~~Prove that a piece of code is not thread-safe by creating test code that spawns multiple threads which cause the code to behave incorrectly. Then make the code threadsafe using the synchronized keyword. Like Prob 8 of Lab 10.~~
7. Create the most general possible method (a “generic method”) to solve some problem (like finding max element of a list, finding second largest element of a list).
8. The Java 8 features of interfaces (static and default methods) and best practices for using them.
9. SCI Principle