# Final Exam Review Points

The final exam will consist of 100% skill questions. Skill questions require you to write code. The exam will be a paper exam; you will not have access to laptops, internet, phones, books, or notes. You should be prepared to write code without the help of Eclipse.

1. Given a lambda, find a suitable type, turn it into a method reference, indicate the type of method reference (one of 4 possibilities) and replace lambda with static inner class. (Like Lab 8, Problem 6.) [15 pts]
2. Create lambda/stream pipeline to solve problems; know how to use the following stream operations. There will be 9 problems related the Stream API. [45 pts]

> **Stream API operations that you should know:**
> of
> iterate
> limit
> skip
> concat
> filter
> map
> flatMap
> reduce
> distinct
> sorted (should also know Comparator.comparing and Comparator's thenComparing)
> reversed
> count
> max (need to know how the Optional class works)
> findFirst
> findAny
> ofNullable (be able to use ofNullable together with orElse/orElseGet)
> joining (), joining (", ")
> collect (Collectors.groupingBy())
> collect (Collectors.toList())

3. Create the most general possible method (a "generic method") to solve some problem (like finding max element of a list (Lesson 11), finding second largest element of a list (like Lab 11, Problems 2 and 3). [15 pts]

**The SCI Question**: [5 pts] You will be given an insight/principle from SCI and you will be asked to explain what it means and give an example of how it is exemplified or illustrated by a Computer Science concept. This is a short essay.

**Total**: 75 points + extra credit 5
**Duration**: 2.5 hours