

Final Exam Review Points

During the final exam, you will not have access to notes, internet, lecture slides, labs, but you will have two cheat sheets (included in this review directory).

In addition to an SCI question at the end, the exam will consist of 5 programming questions selected from the following areas:

1. Solve a problem using a stream pipelines; replace lambdas with inner classes and also with method references. (Like the quiz)
2. Given a class diagram with all classes implemented and test data provided, form a stream pipeline to extract data that satisfy some specified criteria. (Like Lab 9, Problem 1.)
3. 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 3 and 4 in Lab 10).
4. Use the reduce method on Streams to solve a problem. (Like Lab 9, Problem 10a. Also, like In-Class exercise 9.4.)
5. 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 (Lab 11, Problems 5 and 6).

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.toList())

Functional Interfaces you should know well (not available on the Cheat Sheet)

Function

Predicate

Consumer

Comparator