Indiana University
CSCI-C212: Introduction to Software Systems (S25) Lab 07
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Streams

What To Do:

Follow each step carefully. As you complete the lab, submit the source files (`.java`) problems to the autograder (link is in the Canvas portal). After finishing, please submit your work to the autograder and let one of the TAs know.

For this lab, please place each method inside its own class file labeled as `ProblemX`, where `X` is the problem number. The accompanying test files should be named `ProblemXTest`.

Problem 1

Design the `List<Integer> removeDups(List<Integer> lon)` method, which receives a list of integers, removes all duplicate integers. Return this result as a new list. You must use the Stream API.

Problem 2

Design the `List<Double> filterThenSquare(List<Double> lon)` method, which receives a list of doubles, removes all numbers that are multiples of seven, and squares the remaining values. Return this result as a new list. You must use the Stream API.

Problem 3

Design the `Optional<Integer> maximum(List<Integer> lon)` method that, when given a list of integers, returns the maximum value in the list as an `Optional<Integer>`. If there are no values in the given list, return `Optional.empty()`. You must use the Stream API.

Note: with this problem, don't cheese it by calling `max`*. Figure out how to solve it with* `reduce`*! As a hint, think about how you would find the maximum number in a list of numbers using recursion.*