Assignment 5: Concurrency 5/28/2025

**Pedro Ramirez**

Implement the next release of your term project. You will incorporate *concurrency* if concurrency can fit appropriately (it usually can!); otherwise, create a different project with concurrency.

The same instructions as for Assignment 3 apply, including leveraging AI, showing your value added in red font and by means of explanations, inserting comments (in red) in figures that describe clearly your value added, commenting on what you consider significant prompt contributions, and submitting.

## 1 SUMMARY DESCRIPTION

One- or two-paragraph overall description of your proposed term project. Color red the parts that changed from Assignment 4.Excellent assignments are usually event-driven.

Your response replaces this.

## 2 ADDITIONAL FUNCTIONAL REQUIREMENTS IMPLEMENTED IN THIS RELEASE

Title and one or two sentences per requirement. Don’t repeat requirements implemented for prior assignments unless they are necessary to provide context—in which case, make it clear they are old.

### 2.1 Your title replaces this. (NEW/OLD)

Your response replaces this.

### 2.2 Your title replaces this. (NEW/OLD)

Your response replaces this.

### 2…. more as needed

## 3 I/O SUPPORTING THE NEW REQUIREMENTS LISTED ABOVE

Provide input/output illustrating all new features of your application. Clearly demonstrate every new requirement and tie it back to the corresponding requirement.

Your response replaces this.

## 4 YOUR DIRECTORY

Show a screenshot of your directory. This should include JUnit tests—class-by-class, method-by-method, and covering edge cases, except for trivial and inappropriate ones. Include your “.dat” files (where objects are written) or JSON files. This should include JUnit tests—except for trivial and inappropriate ones.

Your response replaces this.

## 5 TECHNIQUES IMPLEMENTED

Integrate concurrency to tangibly improve the application’s scalability or real-world usability. Because you have AI at your disposal, we hold you to a standard that assumes its use: we reward well-engineered solutions rather than merely deducting points for errors.

### 5.1 Class Model and Sequence Diagram

Supply a main use case, the class model, and the sequence diagram corresponding to the use case. These should be consistent. Indicate in red your class model where you applied concurrency.

Your response replaces this

### 5.2 Explanation: why concurrency is appropriate for this application

Your response replaces this

### 5.3 Code showing where concurrency is defined

Your response replaces this

### 5.4 Code showing where concurrency is used

Your response replaces this

## 6 Evaluation

