

CMSC 433 Project 0: Parallel Maximizer

Due February 7th (Friday), 11:59:59pm

Goal: In this project you will complete several classes to find the maximum `Integer` in a `LinkedList` in parallel. These classes should be **thread safe**.

Code to implement: In the starter files, the methods to implement have the comment `// TODO: IMPLEMENT CODE HERE` within them. The Javadoc explains what these methods should do (which you can compare against the public test). Public tests are in the file `PublicTest.java`.

- Class `ParallelMaximizer`, method `max`
Note: Since this method invokes several `ParallelMaximizerWorkers`, it is expected to be thread safe. The method runs `numThread` amount of threads and then joins them. You are responsible for computing the partial maximum from these results by calling `getPartialMax()` from each `ParallelMaximizerWorker`.
- Class `ParallelMaximizerWorker`, method `run`
Note: This method should find the maximum for all integers processed by this worker, which can be combined to find the overall maximum. If the list is not empty, the function synchronizes on it to prevent access by other threads and removes the head node, storing its value in the variable `number`. You are responsible for taking this value and evaluating the new partial maximum.

You may find it useful to implement code in the `main` method of `ParallelMaximizer` for testing, however you are under no obligation to do so.

Submission: Submit a .zip file containing your project files to the Submit Server.