Project 0 – Warmup

Due: Monday. 02/11/019 11:59:59 pm

Goal. In this project you will complete the implementation of two classes that find the maximum Integer in a `LinkedList` in parallel.

Getting started. The starter files for this project can be downloaded as a zip file, `p0.zip`, from the Assignments section of the course's ELMS web-site. To load project into Eclipse, first start Eclipse, then open the **File** menu from the menu bar and select **Import…** From the Import window, select **Existing Project into Workspace** under the **General** folder and click **Next>**. Click the radio button for **Select Archive File** and click **Browse…** Find the zip file that you previously downloaded, select it, and click **Open**. Press **Finish**. The project, named "p0", should now be visible in Package Explorer.

Code to implement. In the skeleton files, the methods you are to implement are denoted by the comment `// TODO: IMPLEMENT CODE HERE`.

- Class `ParallelMaximizer`, method `max()`
  The method runs `numThread` number of threads and then joins them. You are responsible for computing the partial maximum from these results by calling `getPartialMax()` from each `ParallelMaximizerWorker` and updating the running maximum, `max`.
- Class `ParallelMaximizerWorker`, method `run()`
  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.

For your own testing purposes, you may find it useful to implement a `main()` method in `ParallelMaximizer`; however you are not required to do so. You can also use the public tests are in the file `PublicTest.java`. ***You should also create and run your own tests!***

Submission. Submit a .zip file containing your project files to the CS submit server (submit.cs.umd.edu). To create this from inside Eclipse, first right-click the top level project folder, "p0", and select **Export…** from the options. Select **Archive File** under the **General** folder, and click **Next>**. Select **Browse…** next to the text field. Set the name and location that you would like for the zip file. Press **Save** and then **Finish** to create the file. To submit the file to the submit server, first log in, then go to the page for this class, select the project, P0, and **Choose File** at the bottom of the page. Locate the zip file you created. Press **Ok** and then press **Submit project!** The submit server will then test your code.