Homework 9: Fork / Join Framework

CSYE 7215: Fall 2016

In this project you will implement a modification to the program for blurring images following the description provided in the tutorial listed below.

The tutorial is available here:
https://docs.oracle.com/javase/tutorial/essential/concurrency/forkjoin.html

The implementation for this tutorial is available here:
https://docs.oracle.com/javase/tutorial/essential/concurrency/examples/ForkBlur.java

You need to implement the following behavior:

1. Read the number of available processors.
2. Invoke the fork/join framework based computation with the level of parallelism set to:
    a. The number of available processors.
    b. The number of available processors plus two.
    c. The number of available processors plus four.
3. Finally, once all the processing is finished, make yet another path over the whole image in order to smooth possible discontinuities in the image due to the partitioning of the image in the recursive calls. This can be achieved by simply invoking serial processing of the whole image using the same approach as in the blurring algorithm after all of the recursive calls terminate.
4. Compare the computation times for each of the options (including serial) and print the comparison results as output. Include the computation time for the whole program in the printout.

Submission

Submit a .zip file containing your project files to Assignments in Blackboard. The zip file you submit should have your name as the author. To enforce academic integrity, your code may be checked for similarity to other submissions.