COP 4520 Spring 2020

Final Project Assignment

Notes:

Please, submit your work via Webcourses.

Submissions by e-mail will not be accepted.

Due date: Wednesday, April 15th by 11:59 PM

Late submissions are not accepted.

This is a team assignment.

You can use a programming language of your choice for this assignment.

If you do not have a preference for a programming language, I would recommend C++.

Grading policy:

General program design and correctness: 50%

Efficiency: 30%

Documentation including statements and proof of correctness, efficiency, and experimental evaluation: 20%

Additional Instructions:

Cheating in any form will not be tolerated.

In addition to being parallel, your design should also be efficient in terms of execution time and memory use.

The goal of this assignment is to complete your project report in the form of a survey. In your final survey paper you will:

1. Summarize the key requirements for creating a concurrent data structure of this type and organize and outline the main properties and synchronization techniques used. Compare the two approaches from Project Assignments 1 and 2 with other related approaches in published work. To do this you will need to perform a literature search on the design of the specific type of concurrent data structure. I would suggest that you start with your literature search with the ACM Digital Library, IEEE Explore, and Google Scholar. Include a Related Works section where you will summarize in a paragraph or two how each of the related approaches works and how they are different than the ones you implemented. Include a table where you will list the key properties of the different implementations and directly contrast the various design strategies.

2. Bonus assignment: +20 points

Re-implement one of the approaches discussed in your Related Works section and include it in your performance analysis.

3. Publish your report according to the publication instructions and submit your work via Webcourses.