Concurrent Algorithms

October 19, 2021

Exercise 3

Problem 1. Consider the transformation from SRSW regular to SRSW atomic registers given in class. Prove that if you replace the base registers (SRSW regular registers) by MRSW regular registers, your algorithm does *not* yield an MRSW atomic register (by providing a counterexample that breaks atomicity).

Problem 2. Consider the transformation from SRSW atomic to MRSW atomic registers given in class. Show that the transformation doesn't work with multiple writers.

Problem 3. Consider the transformation from binary MRSW regular to M-valued MRSW regular explained in class. Does the same transformation work for binary MRMW regular to M-valued MRMW regular registers?