Concurrent Algorithms'10: Exercise 8

November 16, 2010

1 Problem 1

Devise an obstruction-free, anonymous algorithm that implements binary consensus using **finite** number of (unbounded) counters.

Reminder: a counter object implements two operations: *inc*, which increments the value of the counter and returns *ok*, and *read*, which returns the current value of the counter.

2 Problem 2

Prove that the $(2n-1)$-renaming algorithm presented in class preserves the *termination* property, i.e. that eventually every process returns an integer or crashes.

Note: a sketch of the proof can be found on slide 12. You should fill in steps 1 and 2 of the proof.