

Distributed Computing

ffgt86

February 12, 2020

1. *Perform a precise analysis of the time complexity of the Flooding algorithm for:*
 - (a) the synchronous mode and
 - (b) the asynchronous model.
2. *Consider an anonymous ring where processors start with binary inputs.*
 - (a) Give an argument that there is no uniform synchronous algorithm for computing the AND of the input bits.
 - (b) Present an asynchronous (non-uniform) algorithm for computing the AND. The algorithm should send $O(n^2)$ messages in the worst-case.
 - (c) Present a synchronous algorithm for computing the AND. The algorithm should send $O(n)$ messages in the worst case.