



Homework Sheet 4: Distributed Spanners

Due Date: 04 June 2019

1. Recall the Baswana-Sen algorithm for computing a spanner. Describe an implementation of this algorithm in the LOCAL model of distributed computing. How many rounds (as a function of k and n) does the algorithm need ?
2. The CONGEST model of distributed computing, is similar to the LOCAL model, with one restriction. Each message must be of length $O(\log n)$, when the graph has n vertices. Can the Baswana-Sen algorithm be implemented in the CONGEST model ? How many rounds does it need ?