227-0558-00L Principles of Distributed Computing FS2020
Teilnehmer/innen
Bewertungen
Abschnitte
Arbeitsmaterial
Aktivitäten
Dashboard
Startseite
Meine Kurse
263-2210-00L Computer Architecture HS2019
263-2211-00L Seminar in Computer Architecture FS2020

227-0558-00L Principles of Distributed Computing FS2020

Frage **2**

Bisher nicht beantwortet

Erreichbare Punkte: 18.00

Frage markieren

CONGEST Model - MST

Consider a weighted network graph $G = (V, E, w)$ with n vertices, each representing a computer, with unique identifiers $1, \ldots, n$, where the weight $w(e)$ of each edge is known to its endpoints. We consider the following variant of the CONGEST model: Per round, each computer can send (potentially different) $O(n^{1/2} \log n)$-bit messages to its neighbors. Suppose that D denotes the diameter of G and all computers know the values of n and D.

Devise a distributed algorithm that computes a minimum spanning tree (MST) of G in $O((D + n^{1/4}) \log n)$ rounds. Your algorithm may be randomized, but should finish within the desired number of rounds with high probability, i.e. with probability at least $1 - n^{-c}$ for any fixed constant c.

Maximale Dateigröße: 1GB

Dateien

Bewegen Sie Dateien in dieses Feld (Drag-and-drop)

Akzeptierte Dateitypen

Bilddateien .ai .bmp .gdraw .gif .ico .jpe .jpeg .jpg .pct .pic .pict .png .svg .svgz .tif .tiff
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◄ Graded Homework Assignment 1

Direkt zu:

Lecture 5, 18.03.20, Part 1 ►