Algorithms in the Time of COVID19

HW[1] *4 - Recitation*[2] *11*

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[2] Hand-written notes available at: https://www.dropbox.com/sh/x1z104c22d51pox/AACiJdDSKe2SDZw3qNljNApka?dl=0

Homework 4

Problem 1. Let $G = (V, E)$ be an undirected graph with n vertices and m edges containing two vertices s and t such that the distance between s and t is strictly greater than $n/2$.

1. Prove that there must exist some vertex v, not equal to either s or t, such that there is no path from s to t after deleting v.
2. Give an algorithm of $O(m + n)$ complexity to find such a node v.