CMPS 2200 Recitation 12

In this lab we'll investigate minimum spanning tree algorithms.

1. In class, we gave an implementation of Prim's algorithm. It assumes that the input graph G is connected. What if it's not? Modify `prim` to return a list of trees, one per connected component. Test with `test_prim`.

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2. What is the worst-case work of your algorithm, assuming G has k connected components?

put in answers.md

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3. Consider the problem of finding the MST to connect a list of cities by roads. If we have as input the (x,y) coordinates of each city, we can first build a fully-connected, undirected, weighted graph, where each pair of cities is joined by an edge with weight equal to the Euclidean distance between their coordinates. Complete `mst_from_points` to find the MST from a list of points, and test with `test_mst_from_points`.

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4. What is the work of your full algorithm in the previous answer?

put in answers.md

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