OSE 221: Algorithms

Lab Assignment 6

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Adjournment Brakes Section: 13

task 1

. The code reads a weighted directed enough and source - Prom "imputs. tut" file applies Dijkstrais algorithm to find the shortest path from the source to all vertices. Writes the resulting distances on -1 for unneachable vortices into wordput 1. tut " file.

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The code applies Dijkstrais algorithm to find paths Thom two some cities Sand to to all the other vertices in a directed weighted graph. Then determines the vorten at which the paths from S and T meet in the shortest time, considering the maximum of the distances. Finally writer the meeting verton and the corresponding time on outputs "Impossible" if no meeting vorten erists.

The code uses Disjoint Set Union (DSU) to track -Priend cincles sizes in a rillages of N people. It needs thierdship erveries from rinput 3. tuty, updates the cincles and outputs the sizes to "output 3. tut" -Pon each ornery, dolor mining - the size of the -Priend cincle atter 2 people become triends.

I do Acopyront of The code finds the minimum spanning thee using Prim's algorithm. It constructs an adjacency list, iteratively grows the tree by choosing minimum-weight edges, and computes the total weight of the tree.

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to be voer Orginit S. + Union (05 W) of est - thiered concless ones in a silberson of the people . It Catalogic Mandre shop is will represent appropriately chosen fold of a low of conse sel- adapted home colons of -Level to will and oppositionally know down it