Minimum Spanning Tree Algorithms

CS 375 Final Project

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Overview

Minimum Spanning Trees

A minimum spanning tree connects all the vertices in a graph together into a tree with the lightest weight possible.

Approach

Algorithms:

- Kruskal's
- Prim's

Implementations:

- Adjacency List
- Adjacency Matrix

Problem Statement

What's the problem?!?

Prim's Algorithm

Main Idea

Basic idea of the algorithm.

Pseudocode

extemely neat and clear fits in one slide pseudocode.

Analysis of Prim

interesting features, time complexity, why?

Implementation Details

Discuss key data structures, classes, and functions used in the implementation.

Kruskal's Algorithm

Main Idea

Basic idea of the algorithm.

Pseudocode

extemely neat and clear fits in one slide pseudocode.

Analysis of Kruskal

interesting features, time complexity, why?

Implementation Details

Discuss key data structures, classes, and functions used in the implementation.

Experimental Plan

Demonstration

Our Data

Describe the dataset that you used to test the algorithm. How did you generate it? What characteristics does it have, and why? What did you decide to vary in the input set, and why?

Results

What did you learn from testing your algorithm?

Limitations and Future Work

What limitations does your project currently exhibit? If you had another month, what could you improve? What additional tests would you run?

Summary

Recap

This is a recap of what we have talked about.

Questions

Thank you.
Any questions?