Assignment 10: Minimum Spanning Trees

1. Find a Minimum Spanning Tree (MST) of a given connected, undirected and weighted graph using Kruskal's algorithm.

2. Find a MST of a given connected, undirected and weighted graph using Prim's algorithm.

3. Find if a given directed graph contains any cycle(s).

4. Instead of adding edges as in Prim's or Kruskal's algorithms to create, write a program that deletes edges till the graph reduces to its MST.

5. Find a Maximum Spanning Tree of a given connected, undirected and weighted graph.

6. Read n 3D points $\{(x_i, y_i, z_i)\}$ in real space. Generate MST for the Euclidean graph.

7. Find if a given unweighted directed graph is arborescence. An arborescence is a directed acyclic graph in which for a given vertex u, there exists one and only one path to every other node v.