

Task 1

This code implements Dijkstra's algorithm to find the shortest path ~~in a~~ from a specified source node in a weighted graph.

This code process graph data, and need a priority queue for distance from source node and update it as the traverse different nodes to find the solution.

Task 2

This code models a network scenario and uses Dijkstra's algorithm to calculate the time it takes to reach each node from two specified source nodes. We need to obtain a priority distance queue for both Alice and Bob.

Task 3

To find the size of friend circle - with each two friend connected. We need a list and systematically we need to add and make new lists when two persons are connected to the length of the list will indicate the size of friend circle.

Task 4

We need to use minimum spanning tree algorithm to solve this task of finding minimum maintenance cost. Edge approach is used to solve this task as it will ensure connection between all nodes with min connections.