

Task 1: This code implements Dijkstra's shortest path algorithm. There I initialize an empty list named 'list_edges' to store the edges of graph. and '~~distance~~' a list named 'distance' of 'N+1' with a very large value. Then I initialize a priority queue and add the source node S with distance 0. Then I run the Dijkstra algorithm until the priority queue becomes empty.

Task 2: In this code, first I set up the necessary graph structures. Then I run Dijkstra's Algorithm which computes the shortest distance. In the next step I calculate where Alice and Bob can meet in the minimum amount of time.

Task 3: The 'Safe Path' uses DFS to check if there is a path from Node 1 to Node N where every edge has a danger level of ~~at~~ $\leq n$ or less. The next step uses binary search to iteratively guess the maximum danger level that we can tolerate on our path & check whether a path exists.