

Task 1:

Here I ran a simple dijkstra path relaxation method to find the shortest distance to each node or from the source node.

Task 2:

The core theory is the same. I ran dijkstra from both starting points. I later determine the optimal node and time by comparing the two distance arrays from both runs.

Task 3:

To find the least (dangerous) path to a node, we can take the max value of each path and then take the minimum from them. as the final answer. We do this by taking the max of current distance and path cost, then the min of that max and the already stored distance of the node. Rest of it is simple dijkstra.