Any shortest path graph problem with single source and its edges having cost will always point to Dijkstras algorithm.

Attached code is the Dijkstras algorithm implementation in general.

In this particular problem, since the water (Vertex) is non walkable path, the cost of its edges should be infinity or any other large value. i.e Its edges should have values greater than other edges.

In the code snippet, the visited nodes are identified by adding delta to their cost of the edge. This way visited node is always have higher cost then the non-visited nodes.

A sample implementation of Djikstras algorithm is done by hand.

