

Idea:

BFS, or breadth-first search, is a path finding algorithm. It searches, from the origin, all paths of a certain "breadth" first, until its following subpaths are exhausted. Since it marks the following cells after each one as visited, there's no way to visit the same cell twice, and the first time it is checked will be guaranteed to be the first one.

To store the visited cells, a queue is used (to guarantee all the ones at a shorter level are seen first.) The queue stores the x, y and distance values of each visited cell. Cells that contain 1 are ignored. To visit a cell we remove it from the queue.

Example:

