Vendor Take Home Interview Questions

Proxx

[Rules and playable game](). Review the rules and familiarize yourself with the game. **You don't need to implement the flag functionality**.

There are three parts to the exercise. For each part, please include a working coded solution along with an explanation for choosing a certain approach.

Part 1:

Choose a data structure(s) to represent the game state. You need to keep track of the following:
- NxN board
- Location of black holes
- Counts of # of adjacent black holes
- Whether a cell is open

Part 2:

Populate your data structure with K black holes placed in random locations. Note that should place exactly K black holes and their location should be random with a uniform distribution.

Part 3

For each cell without a black hole, compute and store the number of adjacent black holes. Note that diagonals also count. E.g.

0	2	H
1	3	H
H	2	1

Part 4

Write the logic that updates which cells become visible when a cell is clicked. Note that if a cell has zero adjacent black holes the game needs to automatically make the surrounding cells visible.

Note that there's no requirement to build a UI for the game. Only the logic for updating the data structure is needed.