In the popular **Minesweeper** game you have a board with some mines and those cells that don't contain a mine have a number in it that indicates the total number of mines in the neighboring cells. Starting off with some arrangement of mines we want to create a **Minesweeper** game setup.

Example
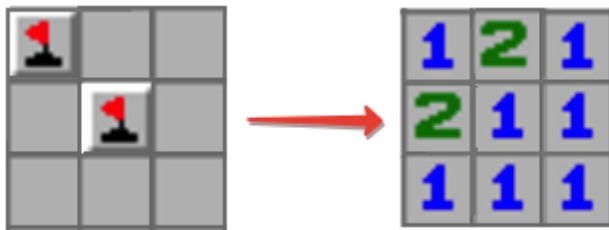
For

```
matrix = [[true, false, false],
          [false, true, false],
          [false, false, false]]
```
the output should be

```
minesweeper(matrix) = [[1, 2, 1],
                       [2, 1, 1],
                       [1, 1, 1]]
```
Check out the image below for better understanding:

Input/Output

- **[execution time limit] 0.5 seconds (cpp)**

- **[input] array.array.boolean matrix**

    A non-empty rectangular matrix consisting of boolean values - `true` if the corresponding cell contains a mine, `false` otherwise.
    Guaranteed constraints:
    `2 ≤ matrix.length ≤ 100,`
    `2 ≤ matrix[0].length ≤ 100.`

- **[output] array.array.integer**