Cavity Map ☆

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You are given a square map as a matrix of integer strings. Each cell of the map has a value denoting its depth. We will call a cell of the map a *cavity* if and only if this cell is not on the border of the map and each cell adjacent to it has *strictly smaller depth*. Two cells are adjacent if they have a common side, or *edge*.

Find all the cavities on the map and replace their depths with the uppercase character **X**.

For example, given a matrix:

```
989
191
111
```

You should return:

```
989
1X1
```

```
111
```

The center cell was deeper than those on its edges: *[8,1,1,1]*. The deep cells in the top two corners don't share an edge with the center cell.

Input Format

The first line contains an integer n, the number of rows and columns in the map.

Each of the following n lines (*rows*) contains n positive digits without spaces (*columns*) representing depth at $map[row, column]$.

Constraints

$1 \le n \le 100$

Output Format

Output n lines, denoting the resulting map. Each cavity should be replaced with the character X .

Sample Input

```
4
1112
1912
1892
1234
```

Sample Output

```
1112
1X12
18X2
1234
```

Explanation

The two cells with the depth of 9 are not on the border and are surrounded on all sides by shallower cells. Their values have been replaced by X.