Cavity Map

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You are given a square map of size n x n. 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 (edge).

You need to find all the cavities on the map and depict them with the uppercase character **X**.

Input Format

The first line contains an integer, n, denoting the size of the map. Each of the following n lines contains n positive digits without spaces. Each digit (1-9) denotes the depth of the appropriate area.

Constraints

1 <= n <= 100

Output Format

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

Sample Input

```
4
1112
1912
1892
1234
```

Sample Output

```
1112
1X12
18X2
```

```
1234
```

Explanation

The two cells with the depth of 9 fulfill all the conditions of the Cavity definition and have been replaced by X.