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# Cavity Map

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Problem

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You are given a square map of size  $n \times n$ . 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

$$1 \leq n \leq 100$$

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The two cells with the depth of 9 fulfill all the conditions of the Cavity definition and have been replaced by X.

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Submissions: 32051

Max Score: 30

Difficulty: Easy

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Python 3



```
1 #!/bin/python3
2
3 import sys
4
5
6 n = int(input().strip())
7 grid = []
8 grid_i = 0
9 for grid_i in range(n):
10     grid_t = str(input().strip())
11     grid.append(grid_t)
12
```

Line: 1 Col: 1

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