

# Cavity Map

## Problem Statement

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The two cells with the depth of 9 fulfill all the conditions of the Cavity definition and have been replaced by X.