C. Maze

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

Pavel loves grid mazes. A grid maze is an $n \times m$ rectangle maze where each cell is either empty, or is a wall. You can go from one cell to another only if both cells are empty and have a common side.

Pavel drew a grid maze with all empty cells forming a connected area. That is, you can go from any empty cell to any other one. Pavel doesn't like it when his maze has too little walls. He wants to turn exactly k empty cells into walls so that all the remaining cells still formed a connected area. Help him.

Input

The first line contains three integers n, m, k $(1 \le n, m \le 500, 0 \le k < s)$, where n and m are the maze's height and width, correspondingly, k is the number of walls Pavel wants to add and letter s represents the number of empty cells in the original maze.

Each of the next n lines contains m characters. They describe the original maze. If a character on a line equals ".", then the corresponding cell is empty and if the character equals "#", then the cell is a wall.

Output

Print n lines containing m characters each: the new maze that fits Pavel's requirements. Mark the empty cells that you transformed into walls as "X", the other cells must be left without changes (that is, "." and "#").

It is guaranteed that a solution exists. If there are multiple solutions you can output any of them.

Examples

input Copy

```
3 4 2
#..#
..#.
#...
```

output Copy

```
#.X#
X.#.
#...
```

input Copy

```
5 4 5
#...
#.#.
.#..
...#
.#.#
```

output Copy

```
#XXX
```

Codeforces Round #222 (Div. 2)
Finished

→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

→ Problem tags

dfs and similar *1600

No tag edit access

→ Contest materials

- Announcement
- Tutorial

```
#X#.
X#..
...#
.#.#
```
