Programming Club

Algorithms InDepth

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Assignment - 2

PROBLEM

Let us define a maze to be an $n \times m$ rectangle 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.

You are given a maze with all empty cells forming a connected area i.e. you can go from an empty cell to any other one.

Your task is to turn exactly k empty cells into walls so that all the remaining cells still form a connected area.

INPUT

The first line contains three integers *n,m,k* where *n* and *m* are maze's height and width respectively and *k* is the number of walls that you have to add.

Each of the next *n* lines contains *m* characters.

"." = Empty cell

"#" = Wall

OUTPUT

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

** If there are multiple solutions you can output anyone **

EXAMPLE

Input	Output
5 4 5 #... #.#. .#.. …# .#.#	#XXX #X#. X#.. …# .#.#