

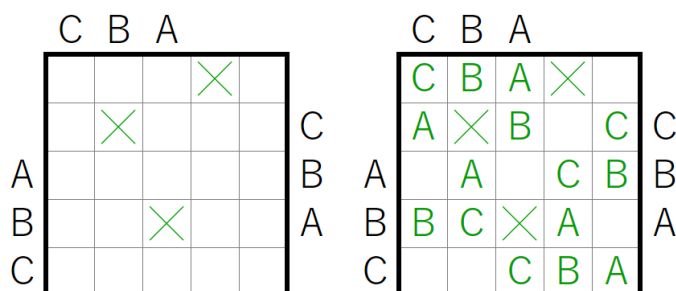
Puzzle: Easy as Scrabble

Input file: standard input
Output file: standard output
Time limit: 1 second
Memory limit: 1024 megabytes

A lot of puzzle variants tend to be harder than the corresponding genres. But paradoxically, just as there is a word that becomes shorter when you add two letters to it, there is a variant which makes any genre easier.

— Freddie Hand

Grammy is a puzzle master. Today, she is playing a variant of “Scrabble” puzzle — “Easy as Scrabble”. The puzzle consists of an $n \times m$ grid. Each cell should be filled in with a capital letter, or left empty. There are some clues outside the puzzle. The outside clue denotes the letter in the first non-empty cell from that direction. Additionally, some of the cells may contain “x” marks, denoting that the cell should be empty.



For example, the picture on the left illustrates an unsolved puzzle, and the picture on the right shows a solution to the puzzle.

Grammy wants to find a solution to the puzzle. Please help Grammy to find a solution, or report that no solution exists.

Input

The first line contains 2 integers n, m ($1 \leq n, m \leq 1000$), denoting the number of rows and the number of columns of the grid.

The next line contains a dot (“.”), followed by m characters U_i , denoting the clues above the grid, followed by a dot (“.”).

Each of the next n lines contains a clue L_i , followed by m characters c_{ij} , followed by a clue R_i , denoting the clue to the left of the grid, the grid cells, and the clue to the right of the grid.

The next line contains a dot (“.”), followed by m characters D_i , denoting the clues below the grid, followed by a dot (“.”).

Each of the clues U_i, L_i, R_i, D_i is either an upper case English character or a dot (“.”). Each of the central cells c_{ij} is either an “x” or a dot (“.”).

All dots in the input means that the corresponding position is empty.

Output

If the solution does not exist, output “NO” on a single line.

Otherwise, output “YES” on the first line, then output n lines, each containing m characters, denoting a solution to the puzzle. Each empty cell should be represented by a dot. If there are multiple solutions, output any.

Please note that you should replace the given “x” characters in the central cells by a dot.

Please also note that you should not output the clue cells.

Examples

standard input	standard output
5 5 .CBA...x.. ..x...C A.....B B..x..A C.....	YES CBA.. A.B.C .A.CB BC.A. ..CBA
1 2 Nx.. ..0.	NO