G3 — Gravity

You would like to implement a simple simulation of gravity on a 2-dimensional grid, consisting of n rows and m columns. Some grid cells may contain obstacles, some may contain a single apple, and all others are empty. The following rules are followed until no further changes are possible:

- The obstacles do not move.

- Whenever there is an empty cell immediately below an apple, the apple moves into the empty cell.

Find the final configuration of the grid after all apples have settled.

Input

The first line of input contains two space-separated integers n and m ($1 \leqslant n, m \leqslant 50$). Each of the next n lines contains m characters, describing the board, from top to bottom. Obstacles are denoted as '#', apples are denoted as 'o', and empty cells are denoted as '.'.

Output

Print, on n lines, the final configuration of the grid after executing the rules stated above.

Input and output samples

Input:	Output:
3 3	o..
ooo	#.o
#..	.o#
..#	

Input:	Output:
4 2	..
oo	o.
oo	oo
o.	oo
..	