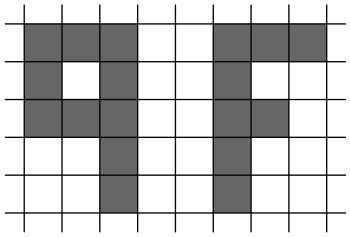
Problem L. Letters Q and F

Time limit:	2 seconds
Memory limit:	512 megabytes

Little Lev is learning how to draw letters `Q` and `F`. Initially, he has a white grid of size $n \times m$. Then he will draw several letters of one of the following two shapes:



Lev will not rotate or mirror these two shapes. Every time he draws a new letter, he will choose a position for the letter inside the grid and paint all cells of the shape black. Lev will only draw letters in such a way that before drawing all black cells of the letter are white — that is, he will never paint a cell twice.

You are given the final coloring of the grid. Count the number of letters `Q` and letters `F` drawn by Lev.

Input

The first line contains two integers n and m — the height and the width of the grid ($5 \le n \le 300$; $3 \le m \le 300$).

The next n lines contain m characters each, denoting the final state of the grid. A white cell is denoted by '`.`', a black cell is denoted by '`#`'.

It is guaranteed that the grid is a valid result of Lev's drawing.

Output

Print two integers — the number of letters `Q` and the number of letters `F` drawn by Lev, respectively.

Examples

standard input	standard output
5 3 ### #.# ### ..# ..#	1 0
5 3 ### #.. ##. #.. #..	0 1
5 8 ###..### #.#..#.. ###..##. ..#..#.. ..#..#..	1 1
8 8 .....### ###..#.# #.###### ###.#### #.###.## #.#.###. ..#...#. ......#.	2 2

Note

Illustration for the fourth example test:

