You have unexpectedly become the owner of a large chessboard, having fifteen squares to each side. Because you do not know how to play chess on such a large board, you find an alternative way to make use of it.

In chess, a rook attacks all squares that are in the same row or column of the chessboard as it is. For the purposes of this problem, we define a rook as also attacking the square on which it is already standing.

Given a set of chessboard squares, how many rooks are needed to attack all of them?

Input

Input consists of a number of test cases. Each test case consists of fifteen lines each containing fifteen characters depicting the chess board. Each character is either a period (`.`) or a hash (`#`). Every chessboard square depicted by a hash must be attacked by a rook. After all the test cases, one more line of input appears. This line contains the word '`END`'.

Output

Output consists of exactly one line for each test case. The line contains a single integer, the minimum number of rooks that must be placed on the chess board so that every square marked with a hash is attacked.

Sample Input

```
...............
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...............
...............
...............
...............
...............
.......#.......
...............
...............
...............
...............
...............
...............
...............
END
```

Sample Output

```
1
```