Counting Sheep

Time Limit: 2000/1000 MS (Java/Others) Memory Limit: 32768/32768 K (Java/Others)
Total Submission(s): 4396 Accepted Submission(s): 2891

Problem Description

A while ago I had trouble sleeping. I used to lie awake, staring at the ceiling, for hours and hours. Then one day my grandmother suggested I tried counting sheep after I'd gone to bed. As always when my grandmother suggests things, I decided to try it out. The only problem was, there were no sheep around to be counted when I went to bed.

Creative as I am, that wasn't going to stop me. I sat down and wrote a computer program that made a grid of characters, where # represents a sheep, while . is grass (or whatever you like, just not sheep). To make the counting a little more interesting, I also decided I wanted to count flocks of sheep instead of single sheep. Two sheep are in the same flock if they share a common side (up, down, right or left). Also, if sheep A is in the same flock as sheep B, and sheep B is in the same flock as sheep C, then sheeps A and C are in the same flock.

Now, I've got a new problem. Though counting these sheep actually helps me fall asleep, I find that it is extremely boring. To solve this, I've decided I need another computer program that does the counting for me. Then I'll be able to just start both these programs before I go to bed, and I'll sleep tight until the morning without any disturbances. I need you to write this program for me.

Input

The first line of input contains a single number T, the number of test cases to follow.

Each test case begins with a line containing two numbers, H and W, the height and width of the sheep grid. Then follows H lines, each containing W characters (either # or .), describing that part of the grid.

Output

For each test case, output a line containing a single number, the amount of sheep flock son that grid according to the rules stated in the problem description.

Notes and Constraints
0 < T <= 100
0 < H,W <= 100

Sample Input

```
2
4 4
#.#.
.#.#
#.##
.#.#
3 5
###.#
..#..
#.###
```

Sample Output

```
6
3
```

Source

IDI Open 2009

Recommend

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