7951   Islands

You are mapping a faraway planet using a satellite.

The planet's surface can be modeled as a grid. Your satellite has captured an image of the surface. Each grid square is either land (denoted as 'L'), water (denoted as 'W'), or covered by clouds ('C'). Clouds mean that the surface could either be land or water, but you can't tell.

An island is a maximal region of land where every grid cell in the island is reachable from every other by a path that only goes up, down, left or right.

Given an image, determine the minimum number of islands that is consistent with the given information.

Input

The input file contains several test cases, each of them as described below.

The first line contains two integers, n and m ($1 \leq n, m \leq 50$), which are the *height* and *width* of the image. The next n lines will each contain exactly m characters, consisting only of 'L', 'W' and 'C', as explained above.

Output

For each test case, print one line of output containing an integer denoting the minimum number of islands possible.

Explanation:

In the first example, the planet could be all water under the clouds.

In the second, the planet beneath the clouds could look like

```
LW
LL
WL
```

Sample Input

```
4 5
CCCCC
CCCCC
CCCCC
CCCCC
3 2
LW
CC
WL
```

Sample Output

```
0
1
```