Problem D. Dominoes

Input file:	*standard input*
Output file:	*standard output*
Time limit:	2 seconds
Memory limit:	256 mebibytes

Pasha has a board of size $n \times m$. Some cells are colored black, some — colored green, all remaining cells are colored white. Also, Pasha has a typical domino set consisting of 28 dominoes. He wants to place some of this dominoes on the board in the following way:

- Each domino occupies exactly two neighboring cells;
- Each non-black cell is occupied with exactly one domino;
- There is no black cell occupied with domino;
- The total number of dots on the green cells g is maximized.

You are to write a program to find the maximum possible value of g for the given board.

Input

There will be multiple test cases in the input. Each test case starts with two positive integers n and m ($1 \le n \cdot m \le 56$). The following n lines contain m characters each. The i-th line describes the i-th row of the board: '`W`' denotes the white cell, '`B`' — the black cell and '`G`' — the green cell. Each board contains at least one green cell. The last test case is followed by a line that contains two zeroes. It must not be processed. There will be no more than 500 test cases in the input.

Output

For each test case output its number and then the maximum value of g. If it is impossible to place dominoes in the described way — output "`No solution`" instead. Follow the format of the sample output.

Example

standard input	standard output
4 4 GWWW GWWB BWWB BWWG 1 3 WGW 0 0	Case 1: 18 Case 2: No solution

Note

The following image shows how to place dominoes in the first sample: