Ema's Supercomputer

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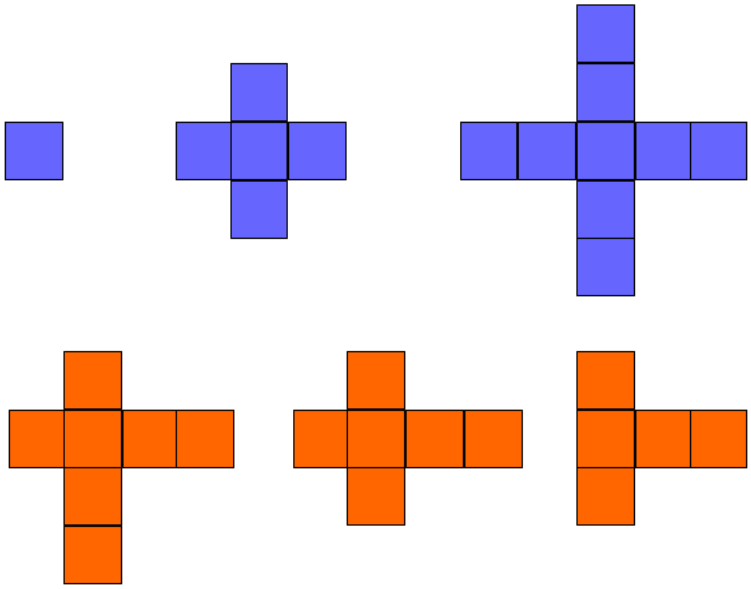
Ema built a quantum computer! Help her test its capabilities by solving the problem below.

Given a grid of size $N \times M$, each cell in the grid is either ***good*** or ***bad***.

A *valid* plus is defined here as the crossing of two segments (horizontal and vertical) of equal lengths. These lengths must be odd, and the middle cell of its horizontal segment must cross the middle cell of its vertical segment.

In the diagram below, the blue pluses are *valid* and the orange ones are *not valid*.



Find the 2 *valid* pluses that can be drawn on ***good*** cells in the grid, and print an integer denoting the maximum product of their areas.

Note: The two pluses *cannot* overlap, and the product of their areas should be maximal.

Input Format

The first line contains two space-separated integers, N and M.
The N subsequent lines contains M characters, where each character is either **G** (***good***) or **B** (***bad***). If the y^{th} character in the x^{th} line is **G**, then (x, y) is a ***good*** cell (otherwise it's a ***bad*** cell).

Constraints

- $2 \leq N \leq 15$
- $2 \leq M \leq 15$

Output Format

Find 2 pluses that can be drawn on ***good*** cells of the grid, and print an integer denoting the maximum product of their areas.

Sample Input 0

```
5 6
GGGGGG
GBBBGB
GGGGGG
GGBBGB
GGGGGG
```

Sample Output 0

```
5
```

Sample Input 1

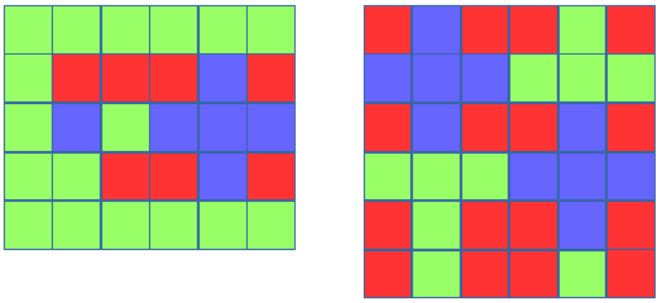
```
6 6
BGBBGB
GGGGGG
BGBBGB
GGGGGG
BGBBGB
BGBBGB
```

Sample Output 1

```
25
```

Explanation

Here are two *possible solutions* for **Sample 1** (left) and **Sample 2** (right):



Explanation Key:

- *Green*: $\boldsymbol{good}$ cell
- *Red*: $\boldsymbol{bad}$ cell
- *Blue*: possible $\boldsymbol{pluses}$.

For the explanation below, we will refer to a plus of length i as P_i.

Sample 0
There is enough good space to color one P_3 plus and one P_1 plus. $Area(P_3) = 5\ units$, and $Area(P_1) = 1\ unit$. The product of their areas is $5 \times 1 = 5$, so we print 5.

Sample 1
There is enough good space to color two P_3 pluses. $Area(P_3) = 5\ units$. The product of the areas of our two P_3 pluses is $5 \times 5 = 25$, so we print 25.

Submissions:4154

Max Score:40

Difficulty: Medium

Rate This Challenge:

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Current Buffer (saved locally, editable)

Java 7

```
1  import java.io.*;
2  import java.util.*;
3  import java.text.*;
4  import java.math.*;
5  import java.util.regex.*;
6
7  public class Solution {
8
9      public static void main(String[] args) {
10         /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should be named Solution. */
11     }
12 }
```

Line: 1 Col: 1

Upload Code as File

Test against custom input

Run Code

Submit Code