

Problem F. Border Similarity Undertaking

Input file: *standard input*
Output file: *standard output*
Time limit: 6 seconds
Memory limit: 512 mebibytes

There is a large organization called *Border Similarity Undertaking* (BSU) which is located in Bytelandia. The head of the organization has a large map of this glorious country. The map is represented as a matrix A with n rows and m columns. Each element of the matrix is a lowercase Latin letter.

BSU has decided to construct a new factory. The factory may be of any size, but it must be rectangular and its sides must be parallel to the sides of the map. Moreover, as you can deduce from the name of the organization, it is required that all the letters on the border of the rectangle are the same.

The head of BSU hasn't decided where to build a factory yet. So BSU has hired you to calculate the number of possible factory locations.

Formally speaking, you are to find the number of tuples of integers (x_1, y_1, x_2, y_2) such that $1 \leq x_1 < x_2 \leq n$, $1 \leq y_1 < y_2 \leq m$, and $A_{i,y_1} = A_{x_1,j} = A_{x_2,j} = A_{i,y_2}$ for all $i \in [x_1, x_2]$, $j \in [y_1, y_2]$.

Input

The first line contains two integers n and m , denoting the number of rows and the number of columns of the map of Bytelandia ($1 \leq n, m \leq 2000$).

Each of the following n lines contains m lowercase Latin letters, describing the matrix A row by row.

Output

Print the number of possible locations where BSU can construct a new factory.

Examples

standard input	standard output
3 5 zzzzz zxzxx zzzzz	3
4 4 abbc bccb babc acbb	0
12 12 abbabaaaabb ababaaaaabb aaabbbbabbb aabababaaaba abbbaabaaba baaababbaba aaaaababbaaa bbabbbbabaa bbbabbaabaaa aabbbaaaabba babaabababaa bababaabaaba	25