Problem B
Beautiful Board

Minh has a board of size $R \cdot C$ (R rows and C columns). Each cell of the board contains an upper-case letter.

Minh believes that the board is beautiful if and only if it has 2 axes of symmetry: a vertical one and a horizontal one. In other words, for each of the R rows, the string in that row must be a palindrome; and for each of the C columns, the string in that column must be a palindrome.

To make the board beautiful, Minh can apply a series of operations. Each operation can be any of the following:

- Select a cell (i, j) and change the character to the next character in the alphabet. The next character of Z would be A.
- Select a cell (i, j) and change the character to the previous character in the alphabet. The previous character of A would be Z.

Your task is to find the minimum number of operators Minh needs to achieve his goal.

Input

The input starts with a line containing 2 integers R and C denoting the size of the board ($1 \leq R, C \leq 50$). Then R lines follow, each contains a string with exactly C upper-case characters.

Output

Print the minimum number of operations needed to transform the original board into a beautiful board.

Sample Input 1	Sample Output 1
3 3 AAB AAA BAB	1

Sample Input 2	Sample Output 2
2 4 LOVE ICPC	33