Problem ID: unicorns

The first point on your list of places to visit is Scotland which is famous for its extraordinary creatures: Kelpies, Nessie and of course unicorns. You happen to visit their favourite forest during the annual unicorn marriage festival with hundreds of unicorns trying to find a partner.

Unicorns have different attributes. For example, they can be tall or small, have long or short, straight or curly hair. Their horn can be skewed clockwise or counter-clockwise. Their fur can have glitters or not. And so on... There are many of those traits and each has exactly two different types. In unicorn genetics these alleles are either *supernatural* (s) or *miraculous* (m). A *supernatural* hair allele results in the straight hair trait while the *miraculous* allele gives a curly hair trait. Concerning glitters: unicorns with s as the glitter allele sparkle, unicorns with m as this allele do not. No two unicorns are exactly the same.

To find an optimal partner, every unicorn is looking for a unicorn whose attributes are exactly the opposites. So, a tall unicorn with short straight hair and normal fur only goes with a small unicorn with long curly hair and a glittery fur.

The ceremonies of this year's festival will last for several days full of dancing, eating and singing with the unicorns trying to impress each other and looking for their exact counterpart. All this is boring stuff for you to watch. So you decide to leave early. But you are still interested in the number of pairs that can match up at the ceremony. Therefore you take a sheet of paper and take notes of all unicorns' traits. Back in the hotel, you analyze the list and want to find out how many pairs can match up.

Input

The input consists of:

- One line with two integers n and g ($2 \leq n \leq 200\,000$, $1 \leq g \leq 23$), the number of unicorns and genes per unicorn.

- n lines describing the unicorns, each with a string of length g consisting of the letters s and m.

It is guaranteed that no two identical unicorns attended the meeting.

Output

Print the number of possible unicorn pairs.

Sample Input 1	Sample Output 1
2 2 ms sm	1

Sample Input 2	Sample Output 2
3 4 mssm smsm mmmm	0