Palindromes

Problem Statement

Tom has multiple bags, each bag containing many letter tiles. Each letter tile is labelled with a single letter from A-Z. A bag may contain 0, 1, or more tiles, of any letter. He wants to form palindromes, which are words (not necessarily valid English words) that are the same when read forward or backwards. For example, ANNA is a palindrome, and so is QJSDFMFDSJQ. How many ways can Tom pick 2 distinct bags, such that all the letter tiles they contain can be rearranged to form a palindrome? Note that picking bags (i, j) is considered the same way as picking bags (j, i).

Input

The first line of input contains a positive integer N ($1 <= N <= 10^5$), denoting the number of bags. N lines follow, each describing the letter tiles in the corresponding bag. Each line contains exactly 1 alphabetic string (made of only uppercase Latin letters A-Z). Each string has at least 1 character, and at most 1000 characters. The total number of letters over all words, is at most 10^6.

Strings with the same letters may appear multiple times, and are counted as distinct bags (containing the same letters).

Output

Print out the total number of ways Tom can choose 2 bags, such that their combined letter tiles can be rearranged to form a palindrome.

Sample Input 1

7

ABA

B

BAB

AB

XYZ

XYZ

TT

Sample Output 1

8

Explanation

For Sample Input 1, the pairs are as follows:

- (ABA, AB) → ABABA
- (ABA, TT) → TABAT
- (ABA, B) → ABBA
- (B, AB) → BAB
- (B, TT) → TBT
- (BAB, AB) → BABAB
- (BAB, TT) → TBABT
- (XYZ, XYZ) → XYZZYX