

Kaos

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Little Lovro likes to play games with words. During the last few weeks he realized that some words don't like each other.

The words A and B **don't like** each other if **the word A is lexicographically before the word B**, but **the word B' is lexicographically before the word A'**, where X' stands for the word X reversed (if X = "kamen", then X' = "nemak"). For example, the words "lova" and "novac" like each other, but the words "aron" and "sunce" don't like each other.

Given some set of the words, we define **the degree of chaos** of the set as **the number of pairs** of different words that **don't** like each other.

Write a program that, given a set of words, finds the chaos degree for the set.

input data

The first line of input contains an integer N , $2 \leq N \leq 100\,000$.

Each of the following N lines contains one word – a sequence of at most 10 lowercase letters of the English alphabet ('a' – 'z'). There will be no two identical words in the set.

output data

The first and only line of output should contain a single integer – the chaos degree of the given set of words.

Note: use 64-bit signed integer type (int64 in Pascal, long long in C/C++)

examples

input

2

input

4

input

14

lopta

kugla

output

0

lova

novac

aron

sunce

output

3

branimir

vladimir

tom

kruz

bred

pit

zemlja

nije

ravna

ploca

ko

je

zapalio

zito

output

48