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LIVE EVENTS

ALL TRACKS > ALGORITHMS > STRING ALGORITHMS > SUFFIX ARRAYS > PROBLEM

SOLVE
LATER

Cats Substrings

Attempted by: 57 / Accuracy: 60% / ★★★★★☆

Tag(s): Medium-Hard

PROBLEM

EDITORIAL

ANALYTICS

🏆 November Clash '15

- Russian version of the problem can be read [here](#).

There are two cats playing, and each of them has a set of strings consisted of lower case English letters.

The first cat has N strings, while the second one has M strings. Both the first and the second cat will choose one of its strings and give it to you. After receiving two strings, you will count the number of pairs of equal substrings that you can choose in both strings, and send this number back to the cats. (Note that two occurrences of the same substring are considered different. For example, strings "bab" and "aba" have 6 such pairs.)

The cats are going to give you all $N * M$ possible pairs. They are interested in the total sum of numbers received from you. Your task is to find this number.

Input format

The first line of the input contains the integer N. The next N lines contain the first cat's strings, one string per line. The next line contain the integer M, and after that the next M lines contain the second cat's strings, one string per line as well.

Output format

In one line print the answer to the problem.

Constraints

$1 \leq N, M \leq 100,000$, the total length of each cat strings set will not exceed 100,000. All strings in the input will be non-empty.

SAMPLE INPUT



```
2
ab
bab
2
bab
ba
```

SAMPLE OUTPUT



```
18
```

Time Limit: 4.0 sec(s) for each input file.

Memory Limit: 256 MB

Source Limit: 1024 KB

Marking Scheme: Marks are awarded when all the testcases pass.

Allowed Languages: C, C++, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, JavaScript(Rhino), JavaScript(Node.js), Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, R(RScript), Racket, Ruby, Rust, Scala, Swift, Visual Basic

CODE EDITOR

Enter your code or [📁 Upload your code](#) as file.

All changes saved

Visual Basic (mono vbnc 4.0.1)



```
1 | Loading...
```

1:1

COMPILE & RUN

SUBMIT

💡 Press ctrl-space for autocomplete suggestions.

POWERED BY `code`table

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