404 Chotto Found

Input file:	`standard input`
Output file:	`standard output`
Time limit:	2 seconds
Memory limit:	1024 megabytes

404 Only a Bit Found

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You are given N strings $S_1, S_2, \ldots, S_N$. Find the number of non-empty strings T that satisfy the following condition:

- Among the N strings $S_1, S_2, \ldots, S_N$, there is exactly one string that contains T as a (consecutive) substring.

Input

The input is given from Standard Input in the following format:

N
S_1
S_2
$\vdots$
S_N

- $1 \leq N \leq 10^5$
- $1 \leq |S_i| \leq 10^6$ $(1 \leq i \leq N)$
- $\left(\sum_{i=1}^{N} |S_i|\right) \leq 10^6$
- S_i $(1 \leq i \leq N)$ consists of lowercase English letters.

Output

Output the answer.

Examples

standard input	standard output
2 abc ca	5
2 aab aab	0
1 aba	5
3 tokyoinstituteoftechnology tokyomedicalanddentaluniversity instituteofsciencetokyo	905

Note

Example 1

Considering the case of $T =$ 'a', both $S_1 =$ 'abc' and $S_2 =$ 'ca' contain 'a' as a substring, so the condition is not satisfied.

For $T =$ 'ab', only $S_1 =$ 'abc' contains 'ab' as a substring, so the condition is satisfied.

For $T =$ 'd', neither $S_1 =$ 'abc' nor $S_2 =$ 'ca' contains 'd' as a substring, so the condition is not satisfied.

The strings satisfying the condition are $T =$ 'b', 'ab', 'bc', 'ca', 'abc', totaling 5.

Example 2

Considering the case of $T =$ 'ab', both $S_1 =$ 'aab' and $S_2 =$ 'aab' contain 'ab' as a substring, so the condition is not satisfied.

There are no strings satisfying the condition.

Example 3

The strings satisfying the condition are $T =$ 'a', 'b', 'ab', 'ba', 'aba', totaling 5.