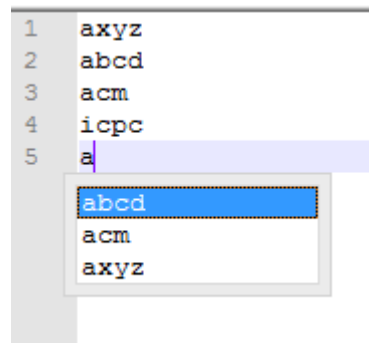


H. TONTON AND TYPING JOB

Time limit: 1s | Memory limit: 512MB
Input stream: stdin | Output stream: stdout

Bella has ran out her money after a big summer sale. She needs a job to pay the huge debt to “Bốc bát họ” team. Fortunately, she has found one – Typing words at Tonton Company. The job description is as follows: given a document with several words, each consist of only lower case alphabet English characters from ‘a’ to ‘z’. You have to type all these words consecutively following strictly order from the document on company typing program. The typing program is designed to faster the typing process. When you type i^{th} word, a list of distinct words which have been typed completely drops down, these words should have the same prefix with typed characters of i^{th} word. The most frequently occurring word is on top, the second most occurring word is next, and so on. Those words with the same number of occurrences are sorted by lexicographical order.



There is another selector which points to the first of the drop-down list. You can move it up or down but you can not jump to the last position by moving up at the first position. The same thing holds for jump from the last position to the first position. There are two ways to complete typing a word w :

- Type entire word, each character costs 1 unit of time.
- Type a prefix of w , each character costs 1 unit of time. If the list contains w , then moving the selector to it and pressing Enter. Each moving costs 1 unit of time, the same for pressing Enter.

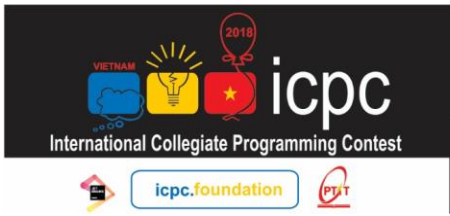
The job description is too long, Bella is getting angry, but she still needs to pay the debt. Your task is to help Bella type the entire document with minimum amount of time.

Input

- The first line is a positive integer n – number of words in the document
- The next n lines, each line contains a string - one word in the document. The total length of words is at most 250000 characters.

Output

- Print exactly one integer – the minimum amount of time to type entire the document



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Sample 1

Input	Output
4 abcd abcd abefg abefg	14

Sample 2

Input	Output
2 abcdef abcdefghijkl	17