Problem E – Entertainment With Prefixes.

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Santiago is a curious boy, he has been studying languages and properties of the words, he took the dictionary the other day and very excited started to explain to you what a a suffix is, what a prefix is, and why a lot of consecutive words in the dictionary seem to have a lot in common when written but have completely different meanings.

Being aware of what a prefix is, you decided to put an easy task for Santiago, you write a list of words in a page of his notebook and ask him to find the number of words that are prefixes of another word in the page, you are surprised to see how fast he finds all such words. As he really likes challenges he then challenged you with these words: "It was easy, since you are older you need a bigger challenge, can you find a subset of words from the list such that no word in that set is a prefix of another word in the same set?". You decided to take the challenge, since it seemed so easy, given that you can form a subset with only one word and that way, it is not a prefix of any another word in the set, but, you want to impress Santiago, and to impress him you decided to write a program to find the largest possible subset.

Write a program that given the list of words, it finds the largest possible subset that holds Santiago's constraints.

Input

The first line of input contains an integer N ($1 \leq N \leq 10^4$), the number of words in the list. Each of the next N lines contains a string consisting of up to 100 lowercase english alphabet characters.

Output

Output a single line with an integer indicating the length of the largest possible subset that holds Santiago's constraints.

Sample input 1	**Sample output 1**
3 ab ac a	2

Sample input 2	**Sample output 2**
5 aa ab ac ad ae	5