Problem H
Longest Common Substring
Time Limit: 1 Second

Given a list of strings, what is the longest substring common to all of them?

Input

The first line of input contains an integer n ($1 \leq n \leq 1{,}000$), which is the number of strings that follow.

Each of the next n lines contains a single string s ($1 \leq |s| \leq 100$) consisting only of lower-case letters.

Output

Output a single integer, which is the length of the longest substring common to all of the input strings.

Sample Input 1	Sample Output 1
5 axabcrwmvd abcn tabchwqsl bvrkabcayna tyabc	3

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