Arnob “The Great” Farhan is a Facebook legend. He likes to surf facebook as well as other websites on the internet. He uses a special web browser in PC. His browser is also smart like him. It gives him suggestion when he wants to go to a web link after writing some prefix of that website if he already visits this website before. But it faces some ambiguity when there is more than one website with the same prefix. So, in this case, he needs to type the URL until the URL prefix is not unique. Your task is to calculate the length of the prefix where he reveals a unique URL.

Input Format

First line contains his browsing history size S. following S lines contain his browsing history.

Then the number of queries Q and in each query an URL will be given which he wants to browse.

Output Format

Length of the prefix.

Constraints

1<=S<=1000

1<= URL Length<=2000

1<= Q <= 100

Sample input

10

Codeforces.com

Codechef.com

Lightoj.com

Spoj.com

Hackerrank.com

uva.com

Codeabbey.com

Leetcode.com

Atcoder.ju

Csacedemy.com

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Codeabbey.com

Atcoder.com

urionlinejudge.com

Sample Output

5

11

18