



Task Wordle

 0.41 sec.  512 MB

I am sure that you are one of those who know about the game Wordle. If you are not one of those who know, the game is the following:

You are given a list of words with 5 letters. An arbitrary word A is chosen from them and the goal of the game is to guess the word in 6 or fewer attempts. When you try some word B , the game tells you for every position i of B whether the letter $A_i = B_i$, the letter B_i is contained elsewhere in A , or A does not contain the letter B_i . The letters are grouped in pairs across the two words. This means that if $A = SHEEP$ and $B = GEEKY$, the game will return that the first E is contained but is not in its position, and the second E is contained and is in its position.

Some of the informaticians in Bulgaria have a Discord group in which every day some of them do today's Wordle (the word A changes every day), but others of them prefer not to waste their time with games. Your task is to help the members of the group solve today's Wordle in as few attempts as possible.



Implementation details

Your task is to implement the following function:

```
void solve(std::vector<std::string> words);
```

It will be called once by the jury and must guess the word A through calls to `query`. The word is guessed when `query` returns `ggggg`. The vector `words` contains all the words which you can use and which may be the answer (A). To do so you can use the following function at most 6 times:

```
std::string query(std::string B);
```

This function returns a string of length 5 which corresponds to what the game returns. If the respective character is `b`, this means that B_i is not contained in A . If the character is `y`, this means that B_i occurs in A , but at a different position. If the character is `g`, then $A_i = B_i$. If you have used the function more than 6 times, it returns an empty string.



Constraints

- $1 \leq |words| \leq 10^4 + 67$
- $|A|, |B| = 5$



Subtasks

Subtask	Points	Required subtasks	Additional constraints
1	6	—	$ words = 1$
2	7	1	$1 \leq words \leq 6$
3	87	1 – 2	$1 \leq words \leq 10^4 + 67$



Scoring

Let g be the number of calls to *query* that your program makes on a given test, and x be the optimal number of calls. If your solution does not guess the word after 6 attempts, you get 0 points on the respective test. Otherwise, the points are computed by the following formula:

$$points = \max(0.40, \min(1, 1 - \frac{0.60 * (g - x)}{6 - x}))$$



Example

Jury	Solution
solve(...)	query("geeky")
bygbb	query("point")
ybbbb	query("sheep")
ggggg	

In the example $g = 3$.



Sample grader

The first line contains the number of words N , then N words - the array `words`, and at the end the word A is given. The grader prints the communication which the solution makes with the jury, and at the end prints whether the word has been guessed or not, and also how many queries have been used.