



Help the Nincompoops

Problem

Submissions

Leaderboard

Discussions

A nincompoop (Let's say Raaghav) was going through his dictionary when he thought of a very weird question. The question goes like this:

- 1). We pick two words from the dictionary. Let the first word be called 'A' and the other 'B'.
- 2). We need to convert the word A to B by following a set of rules.
- 3). On each turn we can change only one letter and the word created after changing that letter must belong to the dictionary.

He asked his friend, Bhaskar this question who also turned out to be a nincompoop. So help them in calculating the minimum number of moves needed to convert A to B.

Each word of the dictionary is of the same length and it contains a maximum of 15 words.

The first line of the input will give the number of words in the dictionary (say N). On each of the next N lines a word present in the dictionary will be given. Last two lines contain A and B. All words consist of lowercase latin letters.

Output the answer or -1 if it does not exist. See the examples for clarity.

Input Format

N, S1, S2, S3, . . . Sn, A, B all in separate lines.

Constraints

$N \leq 15$

$|A| \leq 8$

$|A| = |B| = |S_i|$ for all i

Output Format

ans is the only line of output.

Sample Input 0

```
2
bhaskar
raaghav
bhaskar
raaghav
```

Sample Output 0

```
-1
```

Explanation 0

As no move is possible and we can't reach "raaghav" output is -1.

Sample Input 1

```
5
abcv
ebad
abcd
ebcd
xyza
abcv
ebad
```

Sample Output 1

```
3
```

Explanation 1

abcv -> abcd -> ebcd -> ebad is the shortest path which requires three steps.

Sample Input 2

```
3
ab
ac
bc
ab
bc
```

Sample Output 2

```
2
```

Explanation 2

ab -> ac -> bc will give us the answer 2.

Sample Input 3

```
10
raaghav
baaghav
bhashav
bhashav
bhaskav
bhaskar
zzzzzzz
xxxxxxx
yyyyyyy
wwwwwww
raaghav
bhaskar
```

Sample Output 3

```
5
```

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Contest ends in 3 hours

Submissions: [147](#)

Max Score: 45

Difficulty: Hard

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Current Buffer (saved locally, editable)  

C++14   

```
1 #include <cmath>
2 #include <cstdio>
3 #include <vector>
4 #include <iostream>
5 #include <algorithm>
6 using namespace std;
7
8
9 int main() {
10     /* Enter your code here. Read input from STDIN. Print output to STDOUT */
11     return 0;
12 }
13
```

Line: 1 Col: 1

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