Problem 2: CALICOnstruction
5 Points

Problem ID: `caliconstruction`
Rank: `1`

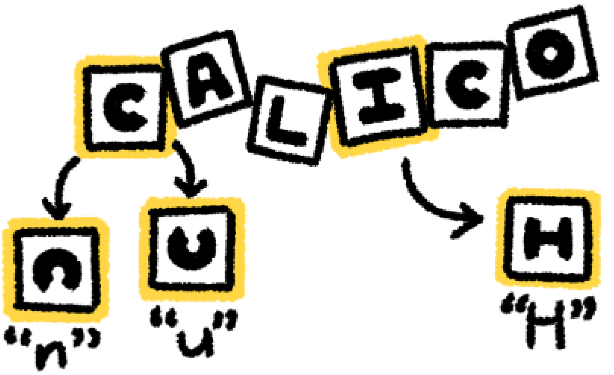
Introduction

To fix the lack of drippy cheese, Big Ben created a brand new snack called LUNCHLI™ featuring Paint™ and OREREREREOOOOOOOOO™ with the meal. Luckily for him, he can use the CALICO blocks he stole from the in-person contest to spell out LUNCHLI™, NONALCOHOLIC, CHIHUAHUA, ONIICHAN, and other COOL words. To get his product into consumer's hands and to show the world Paint™ is superior to Prime, Big Ben needs your help to figure out how many sets of blocks he needs to steal to run his advertising campaign!

Problem Statement

A set of CALICO blocks contains one block of each letter like this:

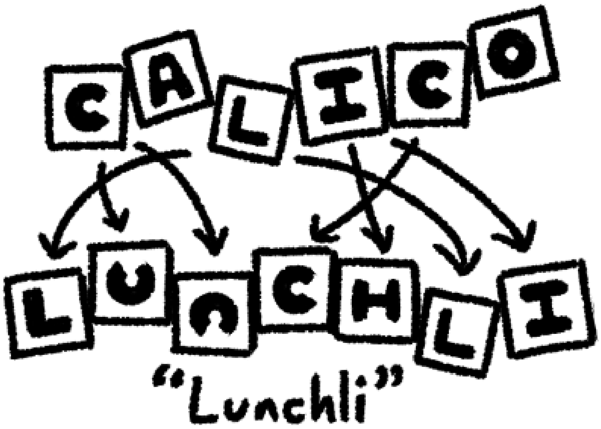
However, some blocks can be rotated to create different letters like this:



Big Ben builds the given string $\mathbf{S}$ by picking letters from some of the CALICO blocks and arranging them to spell a word.

Find the minimum number of sets of CALICO blocks needed to build the given string $\mathbf{S}$ by arranging and rotating the blocks. If there is no way to build $\mathbf{S}$ using any number of sets of blocks, output `-1` instead.

For example:



`LUNCHLI` would require two sets of CALICO blocks!

Note: Templates are available for this problem—and ***all other problems in this contest****—in Python, Java, and C++! Find them in the [contest.zip provided at the start of the contest](). Templates handle input and output for you, so you can just fill out a single function!*

Input Format

The first line of the input contains a single integer $\mathbf{T}$ denoting the number of test cases that follow. Each test case is described in a single line containing a single string $\mathbf{S}$ to be built from CALICO blocks.

Output Format

For each test case, output a single line containing the minimum number of sets of CALICO blocks to build the string. Output `-1` if it is impossible to construct the string with CALICO blocks.

Constraints

Time limit: **1 second**
Memory limit: **256 MB**

$1 \le \mathbf{T} \le 100$
$1 \le |\mathbf{S}| \le 100$
$\mathbf{S}$ contains exclusively letters from the uppercase English alphabet:
`ABCDEFGHIJKLMNOPQRSTUVWXYZ`

Sample Test Case

Sample Input

Download

```
7
COIL
LOL
A
UNCCCCC
CALICONSTRUCTION
Q
NONALCOHOLIC
```

Sample Output

Download

```
1
2
1
4
-1
-1
3
```

Sample Explanations

For test case #1, **S** is the string `COIL`. One set of CALICO blocks gives us one `C`, one `O`, one `I` and one `L`. This is enough letters to spell `COIL`. Therefore, we output `1` as we need one set of CALICO blocks.

For test case #2, **S** is the string `LOL`, one set of CALICO blocks gives us one `L` and one `O`. There is not enough `L` in a single set, so we need another set of CALICO blocks for the other `L`. Therefore, we output `2` as we need 2 sets of CALICO blocks.

For test case #4, the string contains five `C`’s, one `U` and one `N` that can be made by rotating `C`, so the string requires seven `C` in total. Each set of CALICO blocks gives two `C`. 4 sets gives us eight `C`, therefore, we output `4`. Note that 3 sets only gives us six `C`, which is not enough.

For test case #5, the string contains `S` (and other letters) that can not be made with the CALICO blocks, so we output `-1`