Problem A1: Consistency - Chapter 1

`11 points`

Note: This problem shares similarities with A2:Chapter 2. The solution to either chapter may help with solving the other, so please consider reading both first.

Connie received a string S for her birthday, consisting entirely of uppercase letters (each between "A" and "Z", inclusive).
However, Connie really only likes nice, consistent strings. She considers a string to be consistent if and only if all of its letters are the same.

Each second, Connie may choose one letter in S and replace it with a different letter. **If her chosen letter is a vowel, then she may replace it with any consonant of her choice. On the other hand, if her chosen letter is a consonant, then she may replace it with any vowel of her choice.** The 5 letters "A", "E", "I", "O", and "U" are considered vowels, while the remaining 21 letters of the alphabet are considered consonants. If a letter appears multiple times in S, she may only replace a single occurrence per second.

Help her determine the minimum number of seconds required to change S into any consistent string. Note that S might already be consistent, in which case 0 seconds would be required.

Constraints

$1 \le T \le 45$
$1 \le |S| \le 100$
"A" $\le$ Si $\le$ "Z"
The sum of $|S|$ across all test cases is at most 4,500.

Input

Input begins with an integer T, the number of birthdays Connie has had. For each birthday, there is a single line containing the string S.

Output

For the ith string, print a line containing "Case #i: " followed by the minimum number of seconds required to change S into any consistent string.

Sample Explanation

In the first case, Connie could replace the second and third letters ("B" and "C") each with "A", yielding the string "AAA" in 2 seconds.
In the second case, "F" is already consistent.
In the third case, Connie could replace the first, third, and fifth letters ("B", "N", and "N") each with "A", yielding the string "AAAAAA" in 3 seconds.

Sample Input:

6
ABC
F
BANANA
FBHC
FOXEN
CONSISTENCY

Sample Output

Case #1: 2
Case #2: 0
Case #3: 3
Case #4: 4
Case #5: 5
Case #6: 12