

Problem A

Scrambled Scrabble

You are playing a word game using a standard set of 26 uppercase English letters: A - Z. In this game, you can form *vowels* and *consonants* as follows.

- The letters A, E, I, O, and U can only form a vowel.
- The letter Y can form either a vowel or a consonant.
- Each of the remaining letters other than A, E, I, O, U, and Y can only form a consonant.
- The string NG can form a single consonant when concatenated together.

Denote a *syllable* as a concatenation of a consonant, a vowel, and a consonant in that order. A *word* is a concatenation of one or more syllables.

You are given a string S and you want to create a word from it. You are allowed to delete zero or more letters from S and rearrange the remaining letters to form the word. Find the length of the longest word that can be created, or determine if no words can be created.

Input

A single line consisting of a string S ($1 \leq |S| \leq 5000$). The string S consists of only uppercase English letters.

Output

If a word cannot be created, output 0. Otherwise, output a single integer representing the length of longest word that can be created.

Sample Input #1

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ICPCJAKARTA
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Sample Output #1

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9
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Explanation for the sample input/output #1

A possible longest word is JAKCARTAP, consisting of the syllables JAK, CAR, and TAP.

Sample Input #2

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NGENG
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Sample Output #2

5

Explanation for the sample input/output #2

The whole string S is a word consisting of one syllable which is the concatenation of the consonant NG , the vowel E , and the consonant NG .

Sample Input #3

YYY

Sample Output #3

3

Explanation for the sample input/output #3

The whole string S is a word consisting of one syllable which is the concatenation of the consonant Y , the vowel Y , and the consonant Y .

Sample Input #4

DANGAN

Sample Output #4

6

Explanation for the sample input/output #4

The whole string S is a word consisting of two syllables: DAN and GAN .

Sample Input #5

AEIOUY

Sample Output #5

0