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

```
ICPCJAKARTA
```

Sample Output #1

```
9
```

Explanation for the sample input/output #1

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

Sample Input #2

```
NGENG
```

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
```