

6235 Tongues

Gandalf's writings have long been available for study, but no one has yet figured out what language they are written in. Recently, due to programming work by a hacker known only by the code name ROT13, it has been discovered that Gandalf used nothing but a simple letter substitution scheme, and further, that it is its own inverse: the same operation scrambles the message as unscrambles it.

This operation is performed by replacing vowels in the sequence

(a i y e o u)

with the vowel three advanced, cyclicly, while preserving case (i.e., lower or upper). Similarly, consonants are replaced from the sequence

(b k x z n h d c w g p v j q t s r l m f)

by advancing ten letters. So for instance the phrase

One ring to rule them all.

translates to

Ita dotf ni dyca nsaw ecc.

The fascinating thing about this transformation is that the resulting language yields pronounceable words.

For this problem, you will write code to translate Gandalf's manuscripts into plain text.

Input

The input file will contain multiple test cases. Each test case consists of a single line containing up to 100 characters, representing some text written by Gandalf. All characters will be plain ASCII, in the range space (32) to tilde (126), plus a newline terminating each line. The end of the input is denoted by the end-of-file.

Output

For each input test case, print its translation into plaintext. The output should contain exactly the same number of lines and characters as the input.

Sample Input

```
Ita dotf ni dyca nsaw ecc.
```

Sample Output

```
One ring to rule them all.
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