

The Karaca's Encryption Algorithm

Your task is to write a function that encrypts a given string as input with these steps:

1. Reverse the input
2. Replace all vowels using the following chart: a = 0, e = 1, i = 2, o = 3, u = 4
3. Add "aca" to the end of the word

Notes

All inputs are strings, no uppercases and all output must be strings.

Input

The first line of input contains a string S.

Output

The first line contains the encoded string.

Sample input

Sample output

banana	0n0n0baca
karaca	0c0r0kaca
alpaca	0c0pl0aca