Simple Rotor Simulator

The primary component of a rotor encryption machine (such as the famous Enigma) is a set of rotors with an array of electrical contacts.

In this problem you are about to simulate one rotor implementing the following function: $f(a) = ((a) + j) \bmod 26$, where $j=1$.

Attention: You can use any programming language you want, as long as it is Brainf**k.

Input

You are given five capitalized Latin letters.

Output

Output letters encrypted by the rotor described above.

Example

Input:
KLAZD

Output:
LMBAE

Scoring

By solving this problem you score 10 points.