Task 3

The Caesar Cipher

Task

Gaius Julius Caesar was a Roman military and political leader. According to literature, if he had anything confidential to say, he wrote in cipher so that the cipher alphabet is the plain alphabet rotated right by three, for instance, 'A' is shifted to 'D', 'B' is shifted to 'E', 'C' is shifted to 'F', and so on.

Write a program which, given a ciphertext obtained by rotating right by three from a plaintext consisting of 26 capital letters in the alphabet as Caesar did, outputs the plaintext.

The following is the pair of plaintext and ciphertext alphabets:

```
Plaintext:   A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
Ciphertext:  D E F G H I J K L M N O P Q R S T U V W X Y Z A B C
```

For example, using this cipher, the message `JOI` would be encrypted as `MRL` and the plaintext of `FURDWLD` is `CROATIA`.

Input

The input file contains one line and the line includes one string, a ciphertext, consisting of the capital letters in the alphabet. Note that the length of the input string does not exceed 1000.

Output

You should submit the output file which consists of one line, and the line should contain the string which is the plaintext of the input string.

Sample inputs and outputs

Sample inputs

Sample input 1

Sample input 2

    MRL

        FURDWLD

Sample outputs

Sample output 1

Sample output 2

    JOI

        CROATIA