

Security Key Spaces

K denotes a set called the *key space*. Any element of K is called a *key*.

Each element $e \in K$ uniquely determines a bijection from M to C , denoted by E_e . The E_e is called an encryption function. Similarly for each $d \in K$, we have a bijection from C to M , denoted by D_d , and it is called a decryption function.

For example, consider the same shifting function that we dealt with in the previous challenge. Now, suppose the amount of shifting we do is some e . In the last challenge, $e = 1$. Then e is a valid key representing the bijective function $f(x, e) = \textit{shift_x_by_e}$.

For this task, consider a message that consists of decimal digits and a key, e , which operates by shifting each digit by e places. Find the corresponding ciphertext.

Constraints

$$1 \leq \textit{Length of the string} \leq 10$$

$$0 \leq e \leq 9$$

Input Format

The input consists of **2** lines.

The first line contains the message string.

The second line contains the key e .

Output Format

Output a single line that contains the cipher obtained by shifting each digit e places.

Sample Input

```
391
2
```

Sample Output

```
513
```