Security Key Spaces

HackerRank

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 $f(x, e) = shift\_x\_by\_e$.

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

$1 \leq Length\ of\ the\ string \leq 10$
$0 \leq e \leq 9$

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
```