

# Security Key Spaces | Security Question | HackerRank

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## 1. [Security Key Spaces](#)

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### Security Key Spaces

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

Each element uniquely determines a bijection from to , denoted by . The is called an encryption function. Similarly for each , we have a bijection from to , denoted by , 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 . In the last challenge, . Then is a valid key representing the bijective function . For this task, consider a message that consists of decimal digits and a key, , which operates by shifting each digit by places. Find the corresponding ciphertext.

#### Constraints

#### Input Format

The input consists of lines.

The first line contains the message string.

The second line contains the key .

#### Output Format

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

#### Sample Input

391

2

#### Sample Output

513

Inserted from <<https://www.hackerrank.com/challenges/security-key-spaces>>