



Caesar Cipher

Byang wants to write a secret message to his friend. He has recently discovered Caesar Cipher.

Caesar cipher is simple encryption techniques where each letter in the message is replaced by a letter some fixed number of positions down the alphabet.

For example, with a left shift of 2, C would be replaced by A, D would become B, and so on.

Letters:

```
1 | ABCDEFGHIJKLMNOPQRSTUVWXYZ
```

After applying Caesar cipher of left shift 2:

```
1 | YZABCDEFGHIJKLMNPQRSTUVWXYZ
```

Input

The first line of the input will contain one integer N ($0 < N < 26$), indicating the left shift of the cipher.

The second line will contain a message in all lower-case alphabets and spaces. The message will contain at most 100 characters.

Output

Print the message after applying the Ceaser cipher using the specified left shift.

Input	Output
2 hello world	fcjjm umpjb