

Problem D. ROT N

Time limit 2000 ms

Mem limit 1048576 kB

Problem Statement

We have a string S consisting of uppercase English letters. Additionally, an integer N will be given.

Shift each character of S by N in alphabetical order (see below), and print the resulting string.

We assume that A follows Z . For example, shifting A by 2 results in C ($A \rightarrow B \rightarrow C$), and shifting Y by 3 results in B ($Y \rightarrow Z \rightarrow A \rightarrow B$).

Constraints

- $0 \leq N \leq 26$
- $1 \leq |S| \leq 10^4$
- S consists of uppercase English letters.

Input

Input is given from Standard Input in the following format:

```
N
S
```

Output

Print the string resulting from shifting each character of S by N in alphabetical order.

Sample 1

Input	Output
2 ABCXYZ	CDEZAB

Note that A follows Z .

Sample 2

Input	Output
0 ABCXYZ	ABCXYZ

Sample 3

Input	Output
13 ABCDEFGHIJKLMNOPQRSTUVWXYZ	NOPQRSTUVWXYZABCDEFGHIJKLM