Encode

Time limit: 1.0s   **Memory limit:** 64M

In a Caesar cipher, all characters in an input string are shifted by a number of positions. In other words, with a shift of 3 `A` becomes `D`, while with a shift of -2 `F` becomes `D`. Given an encoded string S of no more than 1000 characters and the shift count N ($-1000 \leq N \leq 1000$), output the decoded string.

Note that S will only ever contain alphabetical characters and spaces. Also note that an S containing `Z` shifted by an N of 2 is perfectly valid, so you should wrap around to `B`. Letter casing matters!

Input Specification

On one line, N, followed by S on a separate line.

Output Specification

The decoded S.

Sample Input

```
12
Qx Bek Oazsdaa
```

Sample Output

```
El Psy Congroo
```