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## Problem A. Abnormal Words

Input file:           standard input  
Output file:         standard output  
Time limit:          1 second  
Memory limit:       256 megabytes



“*Khoor!*” David exclaimed to Aram.

“*Jreeohghbjrrn!*” Aram responded.

Dismayed to find that club members weren’t sufficiently confused, Aram and David decided to speak in a new language. Rather invent one from scratch, they decided to encode their speech with a Caesar cipher.

Specifically, they agree on the *Caesar shift*  $s$ . To say a word, they replace each of its letters by the letter that comes  $s$  places later in the alphabet. Letters that pass z wrap back around to a. For example if  $s = 4$ , a becomes e, b becomes f, and y becomes c.

Encoding and decoding words in their heads is very slow, so David and Aram asked you to write a program to automate this process. After all, they’re still untangling their tongues after saying *jreeohghbjrrn!*

### Input

The first line contains a single character, either “E” or “D”, indicating whether Aram and David are requesting a word to encode or decode, respectively.

The second line contains a integer  $s$  ( $1 \leq s \leq 25$ ), the shift.

The third line contains a single word  $w$  ( $1 \leq |w| \leq 100$ ) consisting solely of the lowercase Latin letters from a to z.

### Output

On a single line output the encrypted or decrypted word, as requested.

### Examples

standard input	standard output
E 3 hello	khoor
D 3 jreeohghbjrrn	gobbledeygook