Problem 4 - Vigenère Cipher

The Vigenère cipher is a method of encrypting text by using a series of Caesar ciphers. A Caesar cipher is a simple substitution cipher which works by rotating the plain text by a fixed number (called a shift). For example, a Caesar cipher with a shift of 3 will replace A with D, B with E, etc.

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Plain:    ABCDEFGHIJKLMNOPQRSTUVWXYZ
Cipher:   DEFGHIJKLMNOPQRSTUVWXYZABC
```

The Vigenère cipher takes this a step further and creates a matrix of the 26 possible Caesar ciphers:

```
 |A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
A|A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
B|B C D E F G H I J K L M N O P Q R S T U V W X Y Z A
C|C D E F G H I J K L M N O P Q R S T U V W X Y Z A B
D|D E F G H I J K L M N O P Q R S T U V W X Y Z A B C
E|E F G H I J K L M N O P Q R S T U V W X Y Z A B C D
F|F G H I J K L M N O P Q R S T U V W X Y Z A B C D E
G|G H I J K L M N O P Q R S T U V W X Y Z A B C D E F
H|H I J K L M N O P Q R S T U V W X Y Z A B C D E F G
I|I J K L M N O P Q R S T U V W X Y Z A B C D E F G H
J|J K L M N O P Q R S T U V W X Y Z A B C D E F G H I
K|K L M N O P Q R S T U V W X Y Z A B C D E F G H I J
L|L M N O P Q R S T U V W X Y Z A B C D E F G H I J K
M|M N O P Q R S T U V W X Y Z A B C D E F G H I J K L
N|N O P Q R S T U V W X Y Z A B C D E F G H I J K L M
O|O P Q R S T U V W X Y Z A B C D E F G H I J K L M N
P|P Q R S T U V W X Y Z A B C D E F G H I J K L M N O
Q|Q R S T U V W X Y Z A B C D E F G H I J K L M N O P
R|R S T U V W X Y Z A B C D E F G H I J K L M N O P Q
S|S T U V W X Y Z A B C D E F G H I J K L M N O P Q R
T|T U V W X Y Z A B C D E F G H I J K L M N O P Q R S
U|U V W X Y Z A B C D E F G H I J K L M N O P Q R S T
V|V W X Y Z A B C D E F G H I J K L M N O P Q R S T U
W|W X Y Z A B C D E F G H I J K L M N O P Q R S T U V
X|X Y Z A B C D E F G H I J K L M N O P Q R S T U V W
Y|Y Z A B C D E F G H I J K L M N O P Q R S T U V W X
Z|Z A B C D E F G H I J K L M N O P Q R S T U V W X Y
```

This cipher requires the use of a keyword. The letters of the keyword are repeated for the length of the plaintext and the cryptographer looks up the encrypted letter in the Vigenère table to create the cipher text; the keyword letter is the row indicator and the plain text letter is the column indicator. For example, the plaintext "attackatdawn" with the keyword "LEMON" produces the cipher text "LXFOPVEFRNHR":

Plaintext: attackatdawn

Keyword: LEMONLEMONLE

Cipher text: LXFOPVEFRNHR

Your task is to create a Vigenère cipher program which accepts the plain text and its keyword and outputs the cipher text. According to cryptographic tradition, your cipher text should have no punctuation and be in all uppercase.

Key Points
- Remove all punctuation (periods, commas, semicolons, question marks, etc.) and spaces. There will be no numbers in the plain text.

- The keyword will always be shorter than the plain text.
- The final output should be all uppercase.

Input

Input will be provided through stdin. The input will contain multiple sets to encrypt (the plain text and its keyword being a set). The plain text will be on a separate line from the keyword and each set is separated by a newline. A "@" symbol will indicate the end of the file.

Output

The output will consist of the cipher text generated by your program. Each plain text/keyword pair will produce one line of cipher text. There will be a newline between each cipher text result.

Sample Input

```
Hello! How are you?
CAT

Encrypt this text?
FIRE
@
```

Output for the Sample Input

```
JEENOAQWTTERQU
JVTVDXKXMQJXJFK
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