Vigenère Cipher

Write a Python program that **mathematically** implements the Vigenère cipher. This is a group programming assignment (i.e. **only one submission per team is needed**)

Notes and Requirements:

- Submit your source code only (I will provide my own key and plaintext/ciphertext to test with);

- Accept both the mode (i.e., encryption, via **-e**, or decryption, via **-d**) and the key at the command line;

- Read the plaintext/ciphertext from **stdin**; and

- Send generated output (either plaintext or ciphertext) to **stdout**.

Please, no GUIs. Make this a command line application without frills that I can execute at the command line as illustrated below. Here are several runs of my program on various inputs that provide hints about how your program should handle upper/lowercase letters, digits, spaces, symbols, etc:

```
prof@latech:~$ ./vigenere -e mykey
hello <-- I typed this
tcvpm <-- my code generated this
HELLO <-- I typed this
TCVPM <-- my code generated this
^D    <-- I pressed Ctrl+D (sometimes, this is needed twice)

prof@latech:~$ ./vigenere -e MyKeY
hello
tcvpm
HELLO
TCVPM
^D

prof@latech:~$ ./vigenere -d MYKEY
tcvpm
hello
TCVPM
HELLO
^D
```

```
prof@latech:~$ ./vigenere -e "This is my key" > ciphertext.txt
Get ready for Cyber Storm!  We're going to turn your world upside down on
May 12!
^D

ciphertext.txt
Zlb jmspw psp Vfjwz Kfmbq!  Ux'ym ywaze ds rnyv qwmd uyvjw bxkqvq byal hu
Usg 12!

prof@latech:~$ ./vigenere -d "This is my key" < ciphertext.txt
Get ready for Cyber Storm!  We're going to turn your world upside down on
May 12!

prof@latech:~$ ./vigenere -d "This is my wrong key" < ciphertext.txt
Get ready tbb Izzsb Ryeji!  Cl'aq hintu zu ygqd ieaf yhhwq rtmxoi jqiz jy
Det 12!
```

Basically, the alphabet only includes the letters A through Z. Any other symbols in the plaintext/ciphertext are retained (including spaces). Letter case is also maintained. Finally, spaces in the key are ignored/skipped.