Cipher

Language: Python

Goal of these project is a program that can encrypt and decrypt a given massage.

We had to carry out such a matrix-based ciphering software, using the following process to encrypt :

- Transcript the key into numbers using the ASCII table
- Convert the numbered key into a square matrix, the smallest possible size, and filling the lines first
- Transcript the clear message into numbers using the ASCII table
- Convert the numbered message into a matrix; its number of columns should fit the key matrix size and its number of lines should be as small as possible
- Multiply the 2 matrices, and write the answer linearly to get the encrypted message

Usage:

```
marcpister@Marcs-MBP delivery % ./103cipher "this is a test" "abcd" 0
Key matrix:
97      98
99      100

Encrypted message:
21548 21768 21570 21790 13499 13636 14323 14470 12577 12706 21251 21468 22639 22870
```

Example:

```
marcpister@Marcs-MBP delivery % ./103cipher -h
USAGE
    ./103cipher message key flag
DESCRIPTION
    message     a message, made of ASCII characters
    key         the encryption key, made of ASCII characters
    flag        0 for the message to be encrypted, 1 to be decrypted
```