8. Write a python program for monoalphabetic cipher is that both sender and receiver must commit the permuted cipher sequence to memory. A common technique for avoiding this is to use a keyword from which the cipher sequence can be generated. For example, using the keyword CIPHER, write out the keyword followed by unused letters in normal

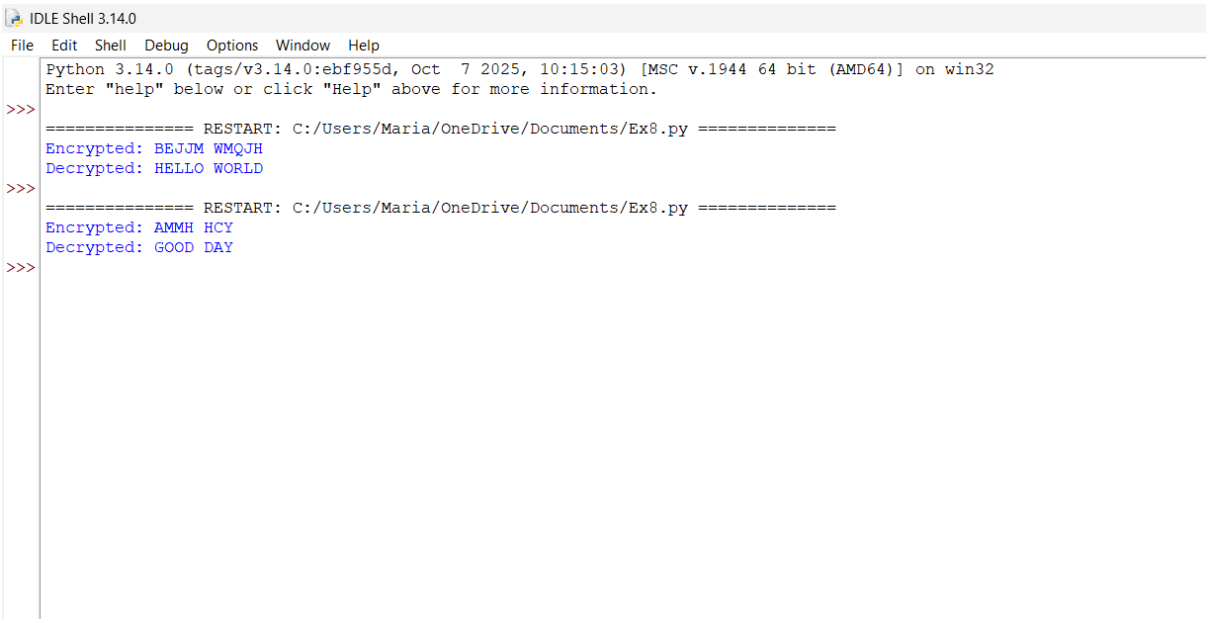
order and match this against the plaintext letters:

plain: 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

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

Code:

```
# Keyword and plaintext

keyword = "CIPHER"

plaintext = "HELLO WORLD"

# Generate cipher alphabet

alphabet = "ABCDEFGHIJKLMNOPQRSTUVWXYZ"

cipher = ""

for c in keyword.upper():

    if c not in cipher:

        cipher += c

for c in alphabet:

    if c not in cipher:

        cipher += c

# Encrypt

ciphertext = "".join(cipher[alphabet.index(c)] if c.isalpha() else c for c in plaintext.upper())

print("Encrypted:", ciphertext)

# Decrypt

decrypted = "".join(alphabet[cipher.index(c)] if c.isalpha() else c for c in ciphertext)

print("Decrypted:", decrypted)
```


IDLE Shell 3.14.0
File Edit Shell Debug Options Window Help
Python 3.14.0 (tags/v3.14.0:ebf955d, Oct 7 2025, 10:15:03) [MSC v.1944 64 bit (AMD64)] on win32
Enter "help" below or click "Help" above for more information.
>>>
========== RESTART: C:/Users/Maria/OneDrive/Documents/Ex8.py ==========
Encrypted: BEJJM WMQJH
Decrypted: HELLO WORLD
>>>
========== RESTART: C:/Users/Maria/OneDrive/Documents/Ex8.py ==========
Encrypted: AMMH HCY
Decrypted: GOOD DAY
>>>