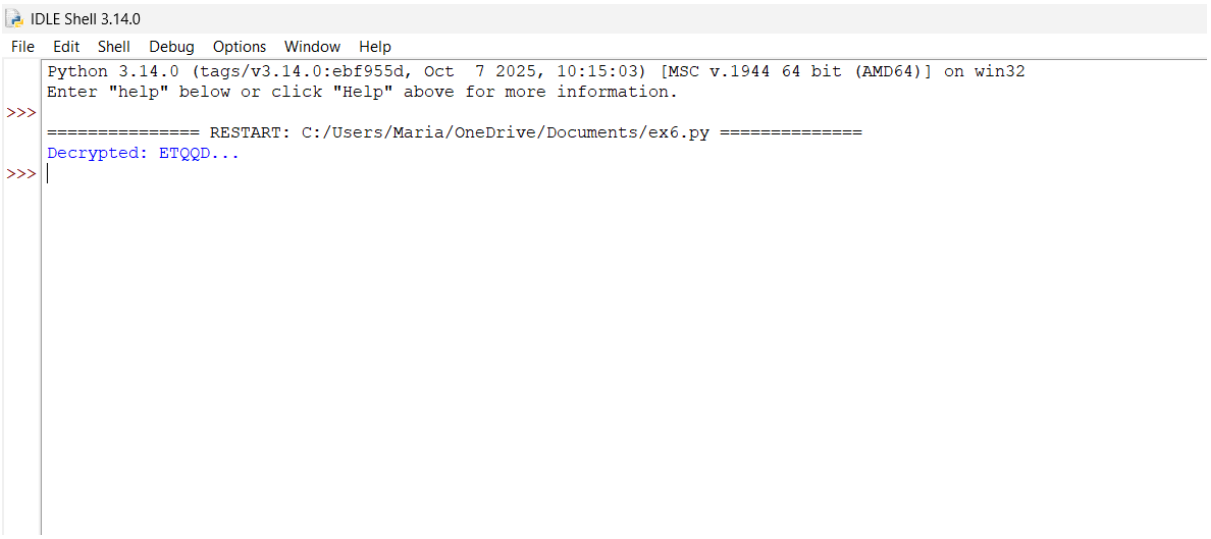
6. Write a python program for ciphertext has been generated with an affine cipher. The most frequent letter of the ciphertext is “B,” and the second most frequent letter of the ciphertext is “U.”Break this code.

Code:

```
def modinv(a, m):
    for i in range(1, m):
        if (a*i) % m == 1:
            return i
# Frequency hints
C1, C2 = ord('B')-65, ord('U')-65  # ciphertext numbers
P1, P2 = ord('E')-65, ord('T')-65  # plaintext numbers
# Solve for a and b
a = ((C1-C2)*(modinv(P1-P2,26)))%26
b = (C1 - a*P1)%26
# Decrypt function
def decrypt(cipher):
    a_inv = modinv(a,26)
    text = ""
    for c in cipher:
    if c.isalpha():
   text += chr((a_inv*(ord(c.upper())-65-b))%26 + 65)
    else:
   text += c
    return text
# Example ciphertext
cipher = "BULLY..."  # replace with actual ciphertext
print("Decrypted:", decrypt(cipher))
```


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/ex6.py ==========
Decrypted: ETQQD...
>>>