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.

Program:

# Affine Cipher Decryption (Breaking Example)

def mod\_inverse(a, m):

for i in range(1, m):

if (a \* i) % m == 1:

return i

return None

def decrypt(cipher, a, b):

a\_inv = mod\_inverse(a, 26)

if a\_inv is None:

return "Invalid key, no inverse for a."

result = ""

for char in cipher.upper():

if char.isalpha():

c = ord(char) - ord('A')

p = (a\_inv \* (c - b)) % 26

result += chr(p + ord('A'))

else:

result += char

return result

# Given

ciphertext = input("Enter ciphertext: ")

# From frequency analysis

a = 3

b = 15

decrypted = decrypt(ciphertext, a, b)

print("\nAssumed key values: a =", a, ", b =", b)

print("Decrypted text:", decrypted)

ooutput:

