**Program Code –**

def encrypt(plaintext, key):

ciphertext = ""

for char in plaintext:

if char.isalpha():

key\_amount = ord(char) + key

if char.isupper():

if key\_amount > ord("Z"):

key\_amount -= 26

elif key\_amount < ord("A"):

key\_amount += 26

ciphertext += chr(key\_amount)

elif char.islower():

if key\_amount > ord("z"):

key\_amount -= 26

elif key\_amount < ord("a"):

key\_amount += 26

ciphertext += chr(key\_amount)

else:

ciphertext += char

return ciphertext

def decrypt(ciphertext, key):

plaintext = ""

for char in ciphertext:

if char.isalpha():

key\_amount = ord(char) - key

if char.isupper():

if key\_amount > ord("Z"):

key\_amount -= 26

elif key\_amount < ord("A"):

key\_amount += 26

plaintext += chr(key\_amount)

elif char.islower():

if key\_amount > ord("z"):

key\_amount -= 26

elif key\_amount < ord("a"):

key\_amount += 26

plaintext += chr(key\_amount)

else:

plaintext += char

return plaintext

plaintext = input("Enter Plain Text: ")

key = int(input("Enter key for encryption: "))

ciphertext = encrypt(plaintext, key)

print("Ciphertext: ", ciphertext)

decrypted\_plaintext = decrypt(ciphertext, key)

print("Decrypted plaintext: ", decrypted\_plaintext)

key\_amount += 26

plaintext += chr(key\_amount)

elif char.islower():

if key\_amount > ord("z"):

key\_amount -= 26

elif key\_amount < ord("a"):

key\_amount += 26

plaintext += chr(key\_amount)

else:

plaintext += char

return plaintext

plaintext = input("Enter Plain Text: ")

key = int(input("Enter key for encryption: "))

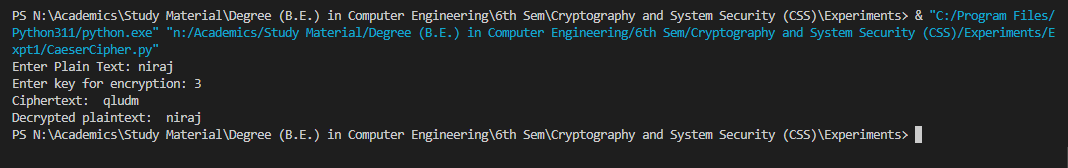
ciphertext = encrypt(plaintext, key)

print("Ciphertext: ", ciphertext)

decrypted\_plaintext = decrypt(ciphertext, key)

print("Decrypted plaintext: ", decrypted\_plaintext)

**Output –**

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