Lab_01_Caesar_Cipher_2004083dd

June 28, 2025

[8]:
```
lowercase_letters=['z']+[chr(i) for i in range(ord('a'),ord('z'))]

uppercase_letters=['Z']+[chr(i) for i in range(ord('A'),ord('Z'))]


def encry_alp(a,k):
    if a in lowercase_letters:
        rank=lowercase_letters.index(a)
        return lowercase_letters[(rank+k+26)%26]
    elif a in uppercase_letters:
        rank=uppercase_letters.index(a)
        return uppercase_letters[(rank+k+26)%26]
    else:
        return -1

def decry_alp(a,k):
    if a in lowercase_letters:
        rank = lowercase_letters.index(a)
        return lowercase_letters[(rank-k+26) % 26]
    elif a in uppercase_letters:
        rank = uppercase_letters.index(a)
        return uppercase_letters[(rank-k+26) % 26]
    else:
        return -1


def Caesar_Cipher():
    Pt=input("Plain Text : ")
    k=input("Key : ")

    print("Plain Text : "+Pt)
    print("Key Value : ",k)

    if not (k.lstrip('-').isdigit() and k != ''):
        print("Invalid Key\n\n")
        return
```

```
    encrypted=""

    for i in range(len(Pt)):
        if Pt[i] not in lowercase_letters and Pt[i] not in uppercase_letters:
            print("Invalid Input\n\n")
            return
        encrypted+=encry_alp(Pt[i],int(k))

    print("Encrypted Text : "+encrypted)

    decrypted=""

    for i in range(len(encrypted)):
        if encrypted[i] not in lowercase_letters and Pt[i] not in␣
 ↪uppercase_letters:
            print("Invalid Input\n\n")
            return
        decrypted+=decry_alp(encrypted[i],int(k))

    print("Decrypted Text : "+decrypted+"\n\n")


test_cases=int(input("Number of test cases : "))

while(test_cases):
    Caesar_Cipher()
    test_cases-=1
```

```
Plain Text : ABCDE
Key Value :  3
Encrypted Text : DEFGH
Decrypted Text : ABCDE


Plain Text : JbhkdKJdLKJeL
Key Value :  11
Encrypted Text : UmsvoVUoWVUpW
Decrypted Text : JbhkdKJdLKJeL


Plain Text : NjfoOejm
Key Value :  -3
Encrypted Text : KgclLbgj
Decrypted Text : NjfoOejm
```

```
Plain Text : NjIklRtN
Key Value :  26
Encrypted Text : NjIklRtN
Decrypted Text : NjIklRtN


Plain Text : NhyEgoEEkfJJdk
Key Value :  0
Encrypted Text : NhyEgoEEkfJJdk
Decrypted Text : NhyEgoEEkfJJdk


Plain Text : Lji8ebvl0[
Key Value :  4
Invalid Input


Plain Text : kjfejbjkvleKHFJFleJNh
Key Value :  .
Invalid Key


Plain Text : MnfhyJjuBfikjD
Key Value :  99
Encrypted Text : HiactEepWadfeY
Decrypted Text : MnfhyJjuBfikjD
```