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Lab Assignment 01

Problem statement: **Implement a Caesar Cipher in Python** that takes a plaintext and a key as input, encrypts the text by shifting characters alphabetically, and then decrypts the cipher text back to the original message.

Code :

```
plain_text=input("Enter the plain text: ")
cipher_text="";
k=int(input("Enter the key: "))

//plain text → ciphertext
for i in range(len(plain_text)):
    char=plain_text[i];
    if(char.isupper()):
        cipher_text+=chr((ord(char)-ord('A')+k)%26+ord('A'))
    else:
        cipher_text+=chr((ord(char)-ord('a')+k)%26+ord('a'))

print("Cipher Text: "+cipher_text)

//Cipher_text → plain text
plain_text="";
for i in range(len(cipher_text)):
    char=cipher_text[i];
    if(char.isupper()):
        plain_text+=chr((ord(char)-ord('A')-k)%26+ord('A'))
    else:
        plain_text+=chr((ord(char)-ord('a')-k)%26+ord('a'))
```

```
print("Plain Text: "+plain_text)
```

Output:

1.

```
D:\CIAS>python -u "d:\CIAS\Lab\lab01.py"
Enter the plain text: NIRU
Enter the key: 4
Cipher Text: RMVY
Plain Text: NIRU
```

2.

```
D:\CIAS>python -u "d:\CIAS\Lab\lab01.py"
Enter the plain text: HELLO
Enter the key: 3
Cipher Text: KHOOR
Plain Text: HELLO
```