Exp: 1A CAESAR CIPHER
Date: 27-01-2024

AIM:

To write a python program implementing caesar cipher algorithm

ALGORITHM:

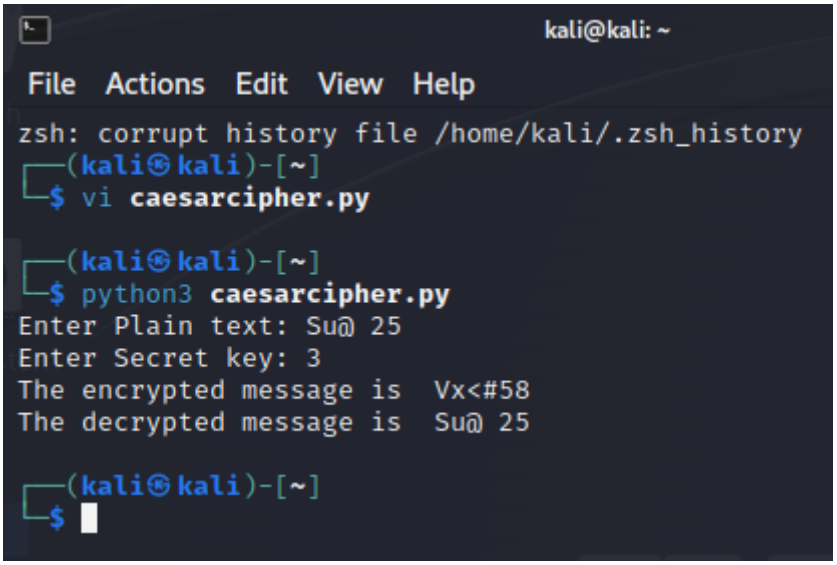
1. Get the plaintext from the user
2. Get the secret key from the user
3. If the character is uppercase take the ascii value of it and add with the key and subtract with original ascii value modulus with total number of characters.
4. If it is lowercase alphabet take its ascii value and do necessary operation modulus with total.
5. For digits and special characters take its ascii value and process it in its range.
6. Print the encrypted text.
7. Subtract the key from encrypted text to get original text.

PROGRAM:

```
p=input("Enter Plain text: ")
k=int(input("Enter Secret key: "))
c=""
for i in range(len(p)):
    if p[i].isupper():
        c+=chr((ord(p[i])+k-65)%26+65)
    elif p[i].islower():
        c+=chr((ord(p[i])+k-97)%26+97)
    elif p[i].isdigit():
        c+=chr((ord(p[i])+k-48)%10+48)
    elif p[i]==':' or p[i]==';' or p[i]=='<' or p[i]=='=' or p[i]=='>' or p[i]=='?' or p[i]=='@':
        c+=chr((ord(p[i])+k-58)%7+58)
    elif p[i]=='[' or p[i]=='\\' or p[i]==']' or p[i]=='^' or p[i]=='_' or p[i]=='`':
        c+=chr((ord(p[i])+k-91)%6+91)
    elif p[i]=='{' or p[i]=='|' or p[i]=='}' or p[i]=='~':
        c+=chr((ord(p[i])+k-123)%4+123)
    else:
        c+=chr((ord(p[i])+k-32)%16+32)
print("The encrypted message is ",c)
d=""
for i in range(len(c)):
    if c[i].isupper():
        d+=chr((ord(c[i])-k-65)%26+65)
    elif c[i].islower():
        d+=chr((ord(c[i])-k-97)%26+97)
    elif c[i].isdigit():
        d+=chr((ord(c[i])-k-48)%10+48)
    elif c[i]==':' or c[i]==';' or c[i]=='<' or c[i]=='=' or c[i]=='>' or c[i]=='?' or c[i]=='@':
        d+=chr((ord(c[i])-k-58)%7+58)
    elif c[i]=='[' or c[i]=='\\' or c[i]==']' or c[i]=='^' or c[i]=='_' or c[i]=='`':
        d+=chr((ord(c[i])-k-91)%6+91)
    elif c[i]=='{' or c[i]=='|' or c[i]=='}' or c[i]=='~':
        d+=chr((ord(c[i])-k-123)%4+123)
    else:
        d+=chr((ord(c[i])-k-32)%16+32)
```

print("The decrypted message is ",d)

OUTPUT:



RESULT:

Thus the python program for caesar cipher is implemented successfully.