

Exp: 1A
Date: 27-01-2024

CAESAR CIPHER

AIM:

To write a python program implementing caesar cipher algorithm

ALGORITHM:

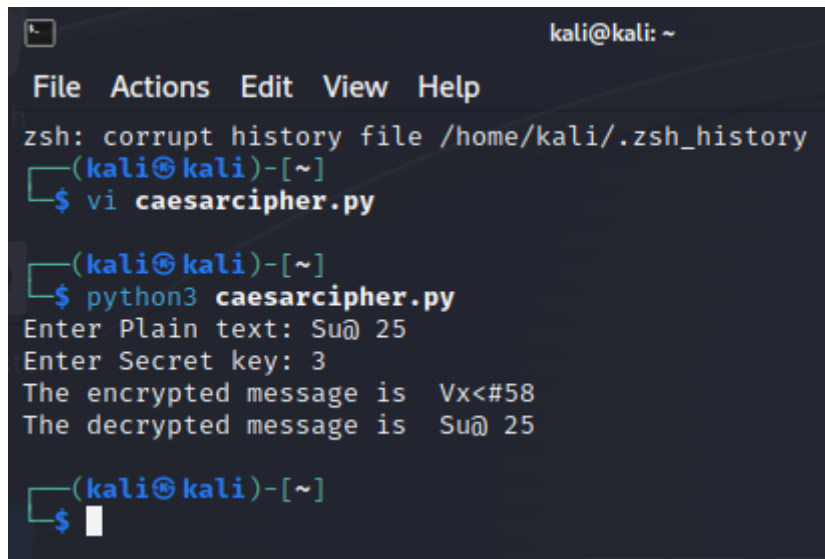
1. Get the plaintext from the user
2. Get the secret key from the user
3. If the character is uppercase take the ascii value of it and add with the key and subtract with original ascii value modulus with total number of characters.
4. If it is lowercase alphabet take its ascii value and do necessary 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:

A terminal window titled 'kali@kali: ~' with a menu bar (File, Actions, Edit, View, Help). The terminal shows a message 'zsh: corrupt history file /home/kali/.zsh_history'. The user enters '(kali@kali)-[~]' and '\$ vi caesarcipher.py'. After editing, they enter '\$ python3 caesarcipher.py'. The program prompts 'Enter Plain text: Su@ 25' and 'Enter Secret key: 3'. It then outputs 'The encrypted message is Vx<#58' and 'The decrypted message is Su@ 25'. The prompt returns to '\$' with a cursor.

```
kali@kali: ~  
File Actions Edit View Help  
zsh: corrupt history file /home/kali/.zsh_history  
(kali@kali)-[~]  
$ vi caesarcipher.py  
  
(kali@kali)-[~]  
$ python3 caesarcipher.py  
Enter Plain text: Su@ 25  
Enter Secret key: 3  
The encrypted message is Vx<#58  
The decrypted message is Su@ 25  
  
(kali@kali)-[~]  
$
```

RESULT:

Thus the python program for caesar cipher is implemented successfully.