Reg no: 210701092 Name: Jeffrey Jesudasan R

EXP NO: 1a
DATE: 27/1/24

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.

Reg no: 210701092 Name: Jeffrey Jesudasan R

PROGRAM:

```
#include <stdio.h>
#include <string.h>
#include <stdlib.h>
#include <stdbool.h>
#include <ctype.h>


int main()
{
    char message[500], c;int
    i;
    int key;


    printf("Enter a message to encrypt: ");
    scanf("%[^\n]", message); // Read the whole line including spaces


    printf("Enter key: ");
    scanf("%d", &key);


    for (i = 0; message[i] != '\0'; i++) {c
        = message[i];


        // Encrypt alphabets (both lowercase and uppercase)if
        (isalpha(c)) {
            if (islower(c)) {
                c = (c - 'a' + key) % 26 + 'a';
            } else {
                c = (c - 'A' + key) % 26 + 'A';
            }
        } else { // Encrypt special charactersc =
            (c + key) % 128;
        }


        message[i] = c;
    }


    printf("Encrypted message: %s\n", message);

    printf("*****Decryption*****");
    char message[500], c;
    int  i;
    int key;
```

```
    printf("Enter a message to decrypt: ");
    scanf("%[^\n]", message); // Read the whole line including spaces
    printf("Enter key: ");
    scanf("%d", &key);
    for (i = 0; message[i] != '\0'; i++) {c
        = message[i];
        // Decrypt alphabets (both lowercase and uppercase)if
        (isalpha(c)) {
            if (islower(c)) {
                c = (c - 'a' - key + 26) % 26 + 'a';
            } else {
                c = (c - 'A' - key + 26) % 26 + 'A';
            }
        } else { // Decrypt special charactersc =
            (c - key + 128) % 128;
        }


        message[i] = c;
    }
    printf("Decrypted message: %s\n", message);


    return 0;
}
```

OUTPUT:

```
┌──(kali㉿kali)-[~/Documents/cnslab]
└─$ gcc caesar.c

┌──(kali㉿kali)-[~/Documents/cnslab]
└─$ ./a.out
Enter a message to encrypt: Cryptography and Network Security
Enter key: 3
Encrypted message: Fubswrjudskb#dqg#Qhwzrun#Vhfxulwb
```

RESULT:

Thus a C program was implemented to demonstrate Caesar Cipher.