**PRACTICAL-1**

**AIM: IMPLEMENT CAESAR CIPHER ENCRYPTION-DECRYPTION ALGORITHM.**

**EXPLANATION**:

* The Caesar Cipher technique is one of the earliest and simplest method of encryption technique.
* It’s simply a type of substitution cipher, i.e., each letter of a given text is replaced by a letter some fixed number of positions down the alphabet.
* For example with a shift of 1, A would be replaced by B, B would become C, and so on.
* The method is apparently named after Julius Caesar, who apparently used it to communicate with his officials.
* Thus to cipher a given text we need an integer value, known as shift which indicates the number of position each letter of the text has been moved down.

**EXPRESSION**:

En(X)=(X+N) mod 26

Dn(X)=(X-N) mod 26

Where n=key and x=text.

**CODE:**

#include<stdio.h>

#include<conio.h>

#include<string.h>

void encryption(char [],int);

void decryption(char [],int);

void encryption(char msg[],int key){

printf("\nCipher Text is:");

int i;

for(i=0;i<strlen(msg);i++)

{

if(isupper(msg[i]))

{msg[i]=((msg[i]+key-65)%26)+65;}

else

{msg[i]=((msg[i]+key-97)%26)+97;}

}

puts(msg);

}

void decryption(char cipher\_text[],int key){

printf("\nDecrypted Text is:");

int i;

for(i=0;i<strlen(cipher\_text);i++)

{

if(isupper(cipher\_text[i]))

{cipher\_text[i]=((cipher\_text[i]-key-65)%26)+65;}

else

{cipher\_text[i]=((cipher\_text[i]-key-97)%26)+97;}

}

puts(cipher\_text);

}

int main(){

char msg[30];

int key;

clrscr();

printf("Enter plain text:");

gets(msg);

printf("Enter key:");

scanf("%d",&key);

encryption(msg,key);

decryption(msg,key);

getch();

return 0;

}

**OUTPUT:**

