EXP NO: 1a		
DATE: 27/1/24		
A TA A.	CAESAR CIPHER	
AIM:		
ALGORITHM:		
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```
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 characters
       c = (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';
          c = (c - 'A' - key + 26) \% 26 + 'A';
     } else { // Decrypt special characters
       c = (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.