

## Procedure

### Algorithm for Caesar Cipher:

#### Input:

1. A String of lower case letters, called Text.
2. An Integer between 0-25 denoting the required shift.

#### Procedure:

- Traverse the given text one character at a time .
- For each character, transform the given character as per the rule, depending on whether we're encrypting or decrypting the text.
- Return the new string generated.

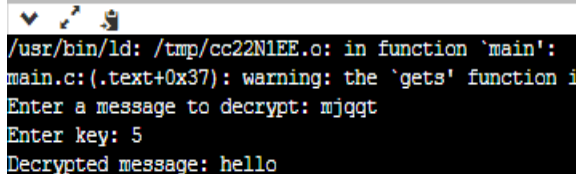
### 1. C Program: Encryption

```
1  #include<stdio.h>
2
3  int
4  main ()
5  {
6
7  char message[100], ch;
8  int i, key;
9
10 printf ("Enter a message to encrypt: ");
11 gets (message);
12 printf ("Enter key: ");
13 scanf ("%d", &key);
14
15 for (i = 0; message[i] != '\0'; ++i)
16 {
17     ch = message[i];
18     if (ch >= 'a' && ch <= 'z')
19     {
20         ch = ch + key;
21         if (ch > 'z')
22         {
23             ch = ch - 'z' + 'a' - 1;
24         }
25     }
26     message[i] = ch;
27 }
28
29 printf ("Encrypted message: %s", message);
30 return 0;
31 }
```

/usr/bin/ld: /tmp/cc00Iub2.o: in function 'main':  
main.c:(.text+0x37): warning: the 'gets' function is dangerous and should not be used.  
Enter a message to encrypt: hello  
Enter key: 5  
Encrypted message: mjqqt

## 2. C Program: Decryption

```
1  #include<stdio.h>
2
3  int
4  main ()
5  {
6
7  char message[100], ch;
8  int i, key;
9
10 printf ("Enter a message to decrypt: ");
11 gets (message);
12 printf ("Enter key: ");
13 scanf ("%d", &key);
14
15 for (i = 0; message[i] != '\0'; ++i)
16 {
17
18 ch = message[i];
19     if (ch >= 'a' && ch <= 'z')
20     {
21         ch = ch - key;
22         if (ch < 'a')
23         {
24
25 ch = ch + 'z' - 'a' + 1;
26
27     }
28     message[i] = ch;
29
30 }
31
32     else if (ch >= 'A' && ch <= 'Z')
33     {
34         ch = ch - key;
35         if (ch < 'A')
36         {
37
38 ch = ch + 'Z' - 'A' + 1;
39
40     }
41     message[i] = ch;
42
43 }
44
45 }
46
47
48 printf ("Decrypted message: %s", message);
49 return 0;
50 }
51
```



```
/usr/bin/ld: /tmp/cc22N1EE.o: in function 'main':
main.c:(.text+0x37): warning: the 'gets' function i
Enter a message to decrypt: mjqqgt
Enter key: 5
Decrypted message: hello
```