

Program and Output

Program :

```
#include<stdio.h>
#include<string.h>
#include<conio.h>
#include<ctype.h>
void main()
{
    char plain[10],cipher[10];
    int key,i,length;
    int result;
    printf("\n Enter the plain text:");
    scanf("%s",plain);
    printf("\n Enter the key value:");
    scanf("%d",&key);
    printf("\n\n\t PLAIN TEXT:%s",plain);
    printf("\n\n\t ENCRYPTED TEXT:");
    for(i=0,length=strlen(plain);i<length;i++)
    {
        cipher[i]=plain[i]+key;
        if(isupper(plain[i])&&(cipher[i]>'z'))
            cipher[i]=cipher[i]-26;

        if(islower(plain[i])&&(cipher[i]>'z'))
            cipher[i]=cipher[i]-26;
        printf("%c",cipher[i]);
    }
    printf("\n\n\t AFTER DECRYPTION :");
    for(i=0;i<length;i++)
    {
```

```

    plain[i]=cipher[i]-key;
    if(isupper(cipher[i])&&(plain[i]<'A'))
    plain[i]=plain[i]+26;
    if(islower(cipher[i])&&(plain[i]<'a'))
    plain[i]=plain[i]+26;
    printf("%c",plain[i]);
}
getch();
}

```

Output :

The screenshot shows the Visual Studio Code interface with a C program named `CSS_EXPT-01.c` open. The program implements a Caesar cipher algorithm. The code in the editor is as follows:

```

1  #include<stdio.h>
2  #include<string.h>
3  #include<conio.h>
4  #include<ctype.h>
5  void main()
6  {
7      char plain[10],cipher[10];
8      int key,i,length;
9      int result;
10     printf("\n Enter the plain text:");
11     scanf("%s",plain);
12     printf("\n Enter the key value:");
13     scanf("%d",&key);
14     printf("\n\n\t PLAIN TEXT:%s",plain);
15     printf("\n\n\t ENCRYPTED TEXT:");
16     for(i=0,length=strlen(plain);i<length;i++)
17     {

```

The terminal window at the bottom shows the execution of the program. The user enters the plain text "hello" and the key value 3. The program outputs the plain text, the encrypted text "khoor", and the decrypted text "hello".

```

PS C:\Users\adity\Desktop> cd "C:\Users\adity\Desktop\" ; if ($?) { gcc CSS_EXPT-01.c -o CSS_EXPT-01 } ; if ($?) { .\CSS_EXPT-01 }

Enter the plain text:hello
Enter the key value:3

PLAIN TEXT:hello
ENCRYPTED TEXT:khoor
AFTER DECRYPTION :hello

```

