

## SOURCE CODE:

```
// THIS PROGRAM IS ABOUT CRYPTOGRAPHY
#include<stdio.h>
#include<string.h>
void encryption(char [], int);      //FUNCTION DECLARATION FOR ENCRYPTION
void decryption(char[], int);      //FUNCTION DECLARATION FOR DECRYPTION
int main(){
    int encryptionKey ,decryptionKey;
    char word[100];
    printf("Enter a word : ");      // STRING AS AN INPUT
    scanf("%s",word);
    printf("Enter the key for Encryption(1 TO 25) : "); //INPUT FOR
    ENCRYPTION OF THE GIVEN STRING(KEY VALUE)
    scanf("%d",&encryptionKey);
    printf("ORIGINAL WORD : %s",word);
    encryption(word,encryptionKey); //FUNCTION CALLING
    printf("\nENCRYPTED WORD : %s", word);
    printf("\nEnter the word for Decryption : ");      //INPUT FOR
    DECRYPTION OF THE STRING
    scanf("%s",word);
    printf("Enter the key for Decryption(negative value): "); //INPUT
    FOR DECRYPTION OF THE GIVEN STRING(KEY VALUE)
    scanf("%d",&decryptionKey);
    decryption(word,decryptionKey);
    printf("DECRYPTED WORD : %s",word);
    return 0;
}
void encryption(char word[100],int key){
    int i;
    for(i = 0;i < strlen(word); i++){
        if(word[i] >= 'a' && word[i] <= 'z'){
            word[i] = (word[i] - 97 + key) % 26 + 97;
        }
        else if(word[i] >= 'A' && word[i] <= 'Z'){
            word[i] = (word[i] - 65 + key) % 26 + 65;
        }
    }
}
void decryption(char word[100],int key){
    int i;
    for(i = 0;i < strlen(word); i++){
        if(word[i] >= 'a' && word[i] <= 'z'){
            word[i] = ((word[i] - 97 )+ key+ 26) % 26 + 97;
        }
        else if(word[i] >= 'A' && word[i] <= 'Z'){
            word[i] = ((word[i] - 65 )+ key + 26) % 26 + 65;
        }
    }
}
```

## OUTPUT:

```
C:\devc++\Crptography.exe  X  +  v
Enter a word : Smartchoice
Enter the key for Encryption(1 TO 25) : 10
ORIGINAL WORD : Smartchoice
ENCRYPTED WORD : Cwkbdmrysmo
Enter the word for Decryption : Cwkbdmrysmo
Enter the key for Decryption(negative value): -10
DECRYPTED WORD : Smartchoice
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Process exited after 77.34 seconds with return value 0
Press any key to continue . . . |
```