

String solution:

=====

1. Write a program that can convert a string's uppercase to lower case.

```
#include <stdio.h>
```

```
int main(){
```

```
    char str[20];
```

```
    int i;
```

```
    printf("Enter a string:");
```

```
    scanf("%s", str);
```

```
    for(i=0 ; str[i]!=0 ; i++){
```

```
        if(str[i]>='A' && str[i]<='Z')
```

```
            str[i]=str[i]+32;
```

```
    }
```

```
    printf("The string in all lowercase:%s", str);
```

```
    return 0;
```

```
}
```

2. Write a program that can convert a string's lowercase to uppercase.

```
#include <stdio.h>
```

```
int main(){
```

```
    char str[20];
```

```
    int i;
```

```
    printf("Enter a string:");
```

```
    scanf("%s", str);
```

```
    for(i=0 ; str[i]!=0 ; i++){
```

```
        if(str[i]>='a' && str[i]<='z')
```

```
            str[i]=str[i]-32;
```

```
    }
```

```
    printf("The string in all uppercase:%s", str);
```

```
    return 0;
```

```
}
```

3. Write a program to find how many uppercase in a string.

```
#include <stdio.h>
```

```
int main(){
```

```
    char str[20];
```

```
    int i, count=0;
```

```
    printf("Enter a string:");
```

```
    scanf("%s", str);
```

```
    for(i=0 ; str[i]!=0 ; i++){
```

```
        if(str[i]>='A' && str[i]<='Z')
```

```
            count++;
```

```
    }
```

```
    printf("Total Uppercase are:%d", count);
```

```
    return 0;
```

```
}
```

4. Write a program to find how many lowercase in a string.

```
#include <stdio.h>
```

```
int main(){
```

```
    char str[20];
```

```
    int i, count=0;
```

```
    printf("Enter a string:");
```

```
    scanf("%s", str);
```

```
    for(i=0 ; str[i]!=0 ; i++){
```

```
        if(str[i]>='a' && str[i]<='z')
```

```
            count++;
```

```
    }
```

```
    printf("Total lowercase are:%d", count);
```

```
    return 0;
```

```
}
```

5. Write a program to find how many uppercase or lowercase (alphabets) in a string.

```
#include <stdio.h>
```

```
int main(){
```

```
    char str[20];
```

```
    int i, count=0;
```

```
    printf("Enter a string:");
```

```
    scanf("%s", str);
```

```
    for(i=0 ; str[i]!=0 ; i++){
```

```
        if((str[i]>='A' && str[i]<='Z') || (str[i]>='a' && str[i]<='z'))
```

```
            count++;
```

```
    }
```

```
    printf("Total alphabets are:%d", count);
```

```
    return 0;
```

```
}
```

6. Write a program to replace all the uppercase by "*" in a string.

```
#include <stdio.h>
```

```
int main(){
```

```
    char str[20];
```

```
    int i;
```

```
    printf("Enter a string:");
```

```
    scanf("%s", str);
```

```
    for(i=0 ; str[i]!='\0' ; i++){
```

```
        if(str[i]>='A' && str[i]<='Z')
```

```
            str[i]='*';
```

```
    }
```

```
    printf("After replacement:%s", str);
```

```
    return 0;
```

```
}
```

7. Write a program to input and output a string avoiding space problems. Don't use gets.

```
#include <stdio.h>
```

```
int main(){
```

```
    char str[20];
```

```
    printf("Enter your name:");
```

```
    scanf("%[^\n]", str);
```

```
    printf("Your Name is:%s", str);
```

```
    return 0;
```

```
}
```

8. Write a program to find the length of a string.

```
#include <stdio.h>
```

```
int main(){
```

```
    char str[20];
```

```
    int i;
```

```
    printf("Enter a string:");
```

```
    scanf("%s", str);
```

```
for(i=0 ; str[i]!=0 ; i++){  
    }  
    printf("The string length:%d", i);  
  
    return 0;  
}
```

9. Write a program that copies a string into a new variable.

```
#include <stdio.h>  
  
int main(){  
  
    char str[20];  
    char dest[20];  
    int i;  
  
    printf("Enter a string:");  
    scanf("%s", str);  
  
    for(i=0 ; str[i]!=0 ; i++){  
        dest[i]=str[i];  
    }  
    dest[i]=0;  
  
    printf("After Copy:%s", dest);
```



```
    return 0;

}
```

10. Write a program that takes a string as an input and display it in reverse order.

```
#include <stdio.h>

int main(){

    char str[20];
    char dest[20];
    int i,j;

    printf("Enter a string:");
    scanf("%s", str);

    for(i=0 ; str[i]!=0 ; i++){
    }
    i--;
    for(j=0 ; i>=0 ; j++,i--){
        dest[j]=str[i];
    }
    dest[j]=0;

    printf("The string in reverse order:%s", dest);
```

```
    return 0;
}
```

11. Write a program for string concatenation. Take two input from the user.

```
#include <stdio.h>
```

```
int main(){
```

```
    char str_1[20];
```

```
    char str_2[20];
```

```
    int i,j;
```

```
    printf("Enter the first string:");
```

```
    scanf("%s", str_1);
```

```
    printf("Enter the second string:");
```

```
    scanf("%s", str_2);
```

```
    for(i=0 ; str_1[i]!=0 ; i++){
```

```
    }
```

```
    for(j=0 ; str_2[j]!=0 ; j++,i++){
```

```
        str_1[i]=str_2[j];
```

```
    }
```

```
    str_1[i]=0;
```

```
printf("The concatenation string is: %s", str_1);

return 0;
}
```

12. Write a function to count all alphabets in a string.

```
#include <stdio.h>

int countAlpha(char str[]){
    int i,count=0;
    for(i=0 ; str[i]!=0 ; i++){
        if((str[i]>='A' && str[i]<='Z') || (str[i]>='a' && str[i]<='z')){
            count++;
        }
    }
    return count;
}

int main(){
    char str[20];
    int k;

    printf("Enter a string:");
    scanf("%s", str);
```

```
k=countAlpha(str);  
printf("Total alphabets are:%d", k);  
  
return 0;  
}
```

13. Write a function for string concatenation. Take two input from the user.

```
#include <stdio.h>  
  
void concat(char str_1[] , char str_2[]){  
    int i,j;  
    for(i=0 ; str_1[i]!=0 ; i++){  
    }  
    for(j=0 ; str_2[j]!=0 ; i++,j++){  
        str_1[i]=str_2[j];  
    }  
    str_1[i]=0;  
  
    printf("The concatenation string is:%s", str_1);  
}  
  
int main(){  
  
    char str_1[20];  
    char str_2[20];
```

```
printf("Insert the first string:");
scanf("%s", str_1);
printf("Insert the second string:");
scanf("%s", str_2);

concat(str_1,str_2);

return 0;
}
```

14. Write a program to compare between two strings (which one is greater, smaller or equal). Using library function.

```
#include <stdio.h>
#include <string.h>
```

```
int main(){

char str_1[20];
char str_2[20];
int k;

printf("Enter the first string:");
scanf("%s", str_1);
```

```

printf("Enter the second string:");
scanf("%s", str_2);

k=strcmp(str_1,str_2);

if(k>0)
    printf("str_1 is greater then str_2");
else if(k<0)
    printf("str_1 is smaller then str_2");
else
    printf("str_1 and str_2 are equal");

return 0;
}

```

15. Write a function to compare between two string (works just as strcmp library function).

```

#include <stdio.h>

int mystrcmp(char str_1[],char str_2[]){
    int i;

    for(i=0 ; str_1[i]!=0 && str_2[i]!=0 ; i++){
        if(str_1[i]!=str_2[i])
            break;
    }
    return (str_1[i]-str_2[i]);
}

```

```
int main(){

    char str_1[20];
    char str_2[20];
    int k;

    printf("Enter the first string:");
    scanf("%s", str_1);
    printf("Enter the second string:");
    scanf("%s", str_2);

    k=mystrcmp(str_1,str_2);

    if(k>0)
        printf("str_1 is greater then str_2");
    else if(k<0)
        printf("str_1 is smaller then str_2");
    else
        printf("str_1 and str_2 are equal");

    return 0;
}
```

16. Write a function to compare between two strings case insensitively.

```
#include <stdio.h>
```

```
char uppercase(char ch){  
    if(ch>='a' && ch<='z')  
        return ch-32;  
}
```

```
int mystricmp(char str_1[],char str_2[]){  
    int i;  
    for(i=0 ; str_1[i]!=0 && str_2[i]!=0 ; i++){  
        if(uppercase(str_1[i])!=uppercase(str_2[i]))  
            break;  
    }  
    return (str_1[i]-str_2[i]);  
}
```

```
int main(){  
  
    char str_1[20];  
    char str_2[20];  
    int k;  
  
    printf("Enter the first string:");  
    scanf("%s", str_1);
```



```

printf("Enter the second string:");
scanf("%s", str_2);

k=mystricmp(str_1,str_2);

if(k>0)
    printf("str_1 is greater then str_2");
else if(k<0)
    printf("str_1 is smaller then str_2");
else
    printf("str_1 and str_2 are equal");

return 0;
}

```

17. Write a function that works just as the library function strncmp.

```

#include <stdio.h>

int mystrncmp(char str_1[],char str_2[],int n){
    int i;
    for(i=0 ; str_1[i]!=0 && str_2[i]!=0 ; i++){
        if(i==n)
            return 0;

        else if(str_1[i]!=str_2[i])

```

```

        break;
    }
    return (str_1[i]-str_2[i]);
}

int main(){

    char str_1[20];
    char str_2[20];
    int k,n;

    printf("Enter the first string:");
    scanf("%s", str_1);
    printf("Enter the second string:");
    scanf("%s", str_2);
    printf("Insert where to terminate:");
    scanf("%d", &n);

    k=mystrncmp(str_1,str_2,n);

    if(k>0)
        printf("str_1 is greater then str_2");
    else if(k<0)
        printf("str_1 is smaller then str_2");
    else
        printf("str_1 and str_2 are equal");

    return 0;
}

```

18. Write down a function that reverses a given string and then copies the reverse string at the beginning.

DO NOT use any string function. For example, if the given string is "ABCD", then the function should produce "DCBAABCD".

```
#include <stdio.h>
```

```
void revConcat(char str[]){
```

```
    int i,j;
```

```
    char dest[50];
```

```
    for(i=0 ; str[i]!=0 ; i++){
```

```
    }
```

```
    i--;
```

```
    for(j=0 ; i>=0 ; i--,j++){
```

```
        dest[j]=str[i];
```

```
    }
```

```
    for(i=0 ; str[i]!=0 ; j++,i++){
```

```
        dest[j]=str[i];
```

```
    }
```

```
    dest[j]=0;
```

```
    printf("After reverse and concatenation:%s", dest);
```

```
}
```

```
int main(){

    char str[30];

    printf("Enter a string:");
    scanf("%s", str);

    revConcat(str);

    return 0;
}
```

19. Write a program in C to count the total number of words in a string.

```
#include <stdio.h>

int main(){

    char str[50];
    int i, count=1;

    printf("Enter a string:");
    scanf("%[^\n]", str);

    for(i=0 ; str[i]!=0 ; i++){
        if(str[i]==' ' || str[i]=='\n' || str[i]=='\t')
            count++;
    }
}
```

```
printf("Total number of words:%d", count);

return 0;
}
```

20. Write down a function that takes a string input (that terminates at \$) and counts number of digits in the given string.

```
#include <stdio.h>
```

```
int countDigit(char str[]){
    int i, count=0;

    for(i=0 ; str[i]!='$' ; i++){
        if(str[i]=='$')
            break;
        else if(str[i]>='0' && str[i]<='9')
            count++;
    }
    return count;
}
```

```
int main(){

    char str[30];
    int k;
```

```
printf("Enter a string:");  
scanf("%s", str);  
  
k=countDigit(str);  
printf("Total digit:%d", k);  
  
return 0;  
}
```

21. Write a program in C to count total number of vowel or consonant in a string.

```
#include <stdio.h>  
  
int main(){  
  
    char str[20];  
    int i;  
    int count_1=0;  
    int count_2=0;  
  
    printf("Enter a string:");  
    scanf("%s", str);  
  
    for(i=0 ; str[i]!=0 ; i++){
```

```

if((str[i]=='A' | |str[i]=='E' | |str[i]=='I' | |str[i]=='O' | |str[i]=='U') | |(str[i]=='a' | |str[i]=='e' | |str[i]=='i' | |str[i]='
=o' | |str[i]=='u'))
    count_1++;
else
    count_2++;
}
printf("\nTotal numbers of vowel:%d", count_1);
printf("\nTotal numbers of consonant:%d", count_2);

return 0;
}

```

22. Write a program in C to find maximum occurring character in a string.

```

#include <stdio.h>

int main(){

    char str[30];
    char ch;
    int i,j,max=-1;

    printf("Enter a string:");

```

```
scanf("%s", str);

for(i=0 ; str[i]!=0 ; i++){
    int count=1;
    for(j=i+1 ; str[j]!=0 ; j++){
        if(str[i]==str[j]){
            count++;
        }
    }
    if(count>max){
        max=count;
        ch=str[i];
    }
}

printf("Maximum occurring character is %c which is %d times",ch,max);

return 0;
}
```


23. Write a program in C to read a sentence and replace lowercase characters by uppercase and vice-versa.

```
#include <stdio.h>
```

```
int main(){
```

```
    char str[30];
```

```
    int i;
```

```
    printf("Enter a string:");
```

```
    scanf("%[^\n]", str);
```

```
    for(i=0 ; str[i]!=0 ; i++){
```

```
        if(str[i]>='A' && str[i]<='Z')
```

```
            str[i]=str[i]+32;
```

```
        else if(str[i]>='a' && str[i]<='z')
```

```
            str[i]=str[i]-32;
```

```
    }
```

```
    printf("The vice-versa sting:%s", str);
```

```
    return 0;
```

```
}
```

24. Write a program in C to find the number of times a given word 'the' appears in the given string.

```
#include <stdio.h>
```

```
int main(){
```

```
    char str[50];
```

```
    int i,t,h,e,space;
```

```
    int count=0;
```

```
    printf("Enter a string:");
```

```
    scanf("%[^\\n]", str);
```

```
    for(i=0 ; str[i]!=0 ; i++){
```

```
        t=(str[i]=='T' || str[i]=='t');
```

```
        h=(str[i+1]=='H' || str[i+1]=='h');
```

```
        e=(str[i+2]=='E' || str[i+2]=='e');
```

```
        space=(str[i+3]==' ' || str[i+3]==0);
```

```
        if((t && h && e && space)==1)
```

```
            count++;
```

```
    }
```

```
    printf("Total amount of word 'the' is:%d", count);
```

```
    return 0;
```

```
}
```

25. Write a program in C to Find the Frequency of a Character.

```
#include <stdio.h>
```

```
int main(){
```

```
    char str[20];
```

```
    int i,count=0;
```

```
    char ch;
```

```
    printf("Enter a string:");
```

```
    scanf("%s", str);
```

```
    fflush(stdin);
```

```
    printf("\nInput the character to find frequency:");
```

```
    scanf("%c", &ch);
```

```
    for(i=0 ; str[i]!=0 ; i++){
```

```
        if(str[i]==ch)
```

```
            count++;
```

```
    }
```

```
    printf("\nThe frequency of %c is :%d", ch,count);
```

```
    return 0;
```

```
}
```

26. Write a C programming to convert vowels into upper case character in a given string.

```
#include <stdio.h>
```

```
int main(){
```

```
    char str[20];
```

```
    int i;
```

```
    printf("Enter a string:");
```

```
    scanf("%s", str);
```

```
    for(i=0 ; str[i]!=0 ; i++){
```

```
        if(str[i]=='a' || str[i]=='e' || str[i]=='i' || str[i]=='o' || str[i]=='u')
```

```
            str[i]=str[i]-32;
```

```
    }
```

```
    printf("The string in all uppercase vowels:%s",str);
```

```
    return 0;
```

```
}
```

27. Take 'n' character inputs from the user and store them in an array.

Now, write a function to remove all the alphabet from the string which comes after 'l' and print the result.

```
#include <stdio.h>
```

```
void removeAlpha(char str[] , int n){
```

```
    char dest[n];
```

```
    int i,j=0;
```

```
    for(i=0 ; str[i]!=0 ; i++){
```

```
        if(str[i]<='l' || str[i]<='i')
```

```
            dest[j]=str[i];
```

```
            j++;
```

```
    }
```

```
    dest[i]=0;
```

```
    printf("The new string:%s", dest);
```

```
}
```

```
int main(){
```

```
    char str[500];
```

```
int num;

printf("How many character to store in the string:");
scanf("%d", &num);

printf("Enter the string:");
scanf("%s", str);

removeAlpha(str,num);

return 0;
}
```

28. Write a function to test whether a string is palindrome.

```
#include <stdio.h>

void palindrome(char str[]){

    char dest[30];
    int i,j,flag=0;

    for(i=0 ; str[i]!=0 ; i++){
    }

    i--;
```

```
for(j=0 ; i>=0 ; i--,j++){  
    dest[j]=str[i];  
}  
dest[j]=0;  
  
for(i=0 ; str[i]!=0 && dest[i]!=0 ; i++){  
    if(str[i]!=dest[i]){  
        flag=1;  
        break;  
    }  
}  
if(flag==1)  
    printf("The string is not palindrome");  
else  
    printf("The string is palindrome");  
}
```

```
int main(){  
  
    char str[30];  
  
    printf("Enter a string to check:");  
    scanf("%s", str);  
  
    palindrome(str);  
  
    return 0;  
}
```

29. Write a function that searches for a character in a string. The function should print true if found false otherwise.

```
#include <stdio.h>
```

```
void charSearch(char str[] , char ch){
```

```
    int flag=0;
```

```
    for(int i=0 ; str[i]!=0 ; i++){
```

```
        if(str[i]==ch){
```

```
            flag=1;
```

```
            break;
```

```
        }
```

```
    }
```

```
    if(flag==1){
```

```
        printf("True");
```

```
    }
```

```
    else{
```

```
        printf("False");
```

```
    }
```

```
}
```

```
int main(){
```

```
    char str[30];
```



```
char c;

printf("Enter a string:");
scanf("%s", str);
fflush(stdin);
printf("Enter a character to check:");
scanf("%c", &c);

charSearch(str , c);

return 0;
}
```

30.Implement a function which replaces all the occurrences of one character with another character in a string and shows the modified string.

```
#include <stdio.h>

void replaceChar(char str[] , char old_char , char new_char){

    for(int i=0 ; str[i]!=0 ; i++){
        if(str[i]==old_char){
            str[i]=new_char;
        }
    }

    printf("The modified string:%s");
}
```

```
int main(){

    char str[30];
    char old_char,new_char;

    printf("Enter a string:");
    scanf("%s", str);
    fflush(stdin);
    printf("Enter what character to replace:");
    scanf("%c", &old_char);
    fflush(stdin);
    printf("Enter the char to replace by:");
    scanf("%c", &new_char);

    replaceChar(str , old_char , new_char);

    return 0;
}
```

31. Write down a function that takes a string as input and copy it after itself in reverse order. For example,

if given string is "Dhaka", then produce another string: "DhakaakahD"

```
#include <stdio.h>
```

```
void revCat(char str[]){
```

```
    char dest[30];
```

```
    int i,j;
```

```
    for(i=0 ; str[i]!=0 ; i++){
```

```
    }
```

```
    i--;
```

```
    for(j=0 ; i>=0 ; j++,i--){
```

```
        dest[j]=str[i];
```

```
    }
```

```
    dest[j]=0;
```

```
    for(i=0 ; str[i]!=0 ; i++){
```

```
    }
```

```
    for(j=0 ; dest[j]!=0 ; i++,j++){
```

```
        str[i]=dest[j];
```

```
    }
```

```
    str[i]=0;
```

```
    printf("The new string:%s", str);
```

```
}
```

```
int main(){

    char str[30];

    printf("Enter the string:");
    scanf("%s", str);

    revCat(str);
    return 0;
}
```

32. Write a c program to find highest frequency of a character in a string.

```
#include <stdio.h>

int main(){

    char str[30];
    char ch;
    int i, count=0;

    printf("Enter a string:");
    scanf("%s", str);
    fflush(stdin);

    printf("Enter a character to check:");
```

```
scanf("%c", &ch);

for(i=0 ; str[i]!=0 ; i++){
    if(str[i]==ch)
        count++;
}
printf("The frequency of %c is :%d", ch,count);

return 0;
}
```

33. Write a C program that takes a string and prints the character in alphabetically ascending order.

```
#include <stdio.h>

int main(){

    char str[30];
    int i,j;
    char temp;

    printf("Enter a string:");
    scanf("%s", str);

    for(i=0 ; str[i]!=0 ; i++){
```

```
    for(j=i+1 ; str[j]!=0 ; j++){  
        if(str[i]>str[j]){  
            temp=str[i];  
            str[i]=str[j];  
            str[j]=temp;  
        }  
    }  
}  
  
printf("The string in alphabetically ascending order:%s", str);  
  
return 0;  
}
```