

```
1  #include <stdio.h>
2
3  #define MAX_STRING_LENGTH 512
4
5  int main(void)
6  {
7      //function prototype
8      void MyStrcat(char[], char[]);
9
10     //variable declarations
11     char chArray_One[MAX_STRING_LENGTH], chArray_Two[MAX_STRING_LENGTH]; // A Character Array Is A String
12
13     //code
14
15     // *** STRING INPUT ***
16     printf("\n\n");
17     printf("Enter First String : \n\n");
18     gets_s(chArray_One, MAX_STRING_LENGTH);
19
20     printf("\n\n");
21     printf("Enter Second String : \n\n");
22     gets_s(chArray_Two, MAX_STRING_LENGTH);
23
24     // *** STRING CONCAT ***
25     printf("\n\n");
26     printf("***** BEFORE CONCATENATION *****");
27     printf("\n\n");
28     printf("The Original First String Entered By You (i.e : 'chArray_One[]') Is : \n\n");
29     printf("%s\n", chArray_One);
30
31     printf("\n\n");
32     printf("The Original Second String Entered By You (i.e : 'chArray_Two[]') Is : \n\n");
33     printf("%s\n", chArray_Two);
34
35     MyStrcat(chArray_One, chArray_Two);
36
37     printf("\n\n");
38     printf("***** AFTER CONCATENATION *****");
39     printf("\n\n");
40     printf("'chArray_One[]' Is : \n\n");
41     printf("%s\n", chArray_One);
42
43     printf("\n\n");
44     printf("'chArray_Two[]' Is : \n\n");
45     printf("%s\n", chArray_Two);
46
47     return(0);
48 }
49
```

```
50 void MyStrcat(char str_destination[], char str_source[])
51 {
52     //function prototype
53     int MyStrlen(char[]);
54
55     //variable declarations
56     int iStringLength_Source = 0, iStringLength_Destination = 0;
57     int i, j;
58
59     //code
60     iStringLength_Source = MyStrlen(str_source);
61     iStringLength_Destination = MyStrlen(str_destination);
62
63     // ARRAY INDICES BEGIN FROM 0, HENCE, LAST VALID INDEX OF ARRAY WILL ALWAYS BE ↗
64     // SO, CONCATENATION MUST BEGIN FROM INDEX NUMBER EQUAL TO LENGTH OF THE ARRAY ↗
65     // WE NEED TO PUT THE CHARACTER WHICH IS AT FIRST INDEX OF 'str_source' TO THE ↗
66     for (i = iStringLength_Destination, j = 0; j < iStringLength_Source; i++, j++)
67     {
68         str_destination[i] = str_source[j];
69     }
70
71     str_destination[i] = '\0';
72 }
73
74 int MyStrlen(char str[])
75 {
76     //variable declarations
77     int j;
78     int string_length = 0;
79
80     //code
81     // *** DETERMINING EXACT LENGTH OF THE STRING, BY DETECTING THE FIRST ↗
82     // OCCURENCE OF NULL-TERMINATING CHARACTER ( \0 ) ***
83     for (j = 0; j < MAX_STRING_LENGTH; j++)
84     {
85         if (str[j] == '\0')
86             break;
87         else
88             string_length++;
89     }
90     return(string_length);
91 }
```