

```
1  #include <stdio.h>
2
3  #define MAX_STRING_LENGTH 512
4
5  int main(void)
6  {
7      //function prototype
8      int MyStrlen(char[]);
9
10     //variable declarations
11     char chArray[MAX_STRING_LENGTH]; // A Character Array Is A String
12     int iStringLength;
13     int count_A = 0, count_E = 0, count_I = 0, count_O = 0, count_U = 0; // Initial Counts = 0
14     int i;
15
16     //code
17
18     // *** STRING INPUT ***
19     printf("\n\n");
20     printf("Enter A String : \n\n");
21     gets_s(chArray, MAX_STRING_LENGTH);
22
23     // *** STRING OUTPUT ***
24     printf("\n\n");
25     printf("String Entered By You Is : \n\n");
26     printf("%s\n", chArray);
27
28     iStringLength = MyStrlen(chArray);
29
30     for (i = 0; i < iStringLength; i++)
31     {
32         switch (chArray[i])
33         {
34             case 'A':
35             case 'a':
36                 count_A++;
37                 break;
38             case 'E':
39             case 'e':
40                 count_E++;
41                 break;
42             case 'I':
43             case 'i':
44                 count_I++;
45                 break;
46             case 'O':
47             case 'o':
48                 count_O++;
49                 break;
50             case 'U':
51             case 'u':
```

```
52         count_U++;
53         break;
54     default:
55         break;
56     }
57 }
58
59 printf("\n\n");
60 printf("In The String Entered By You, The Vowels And The Number Of Their
Occurrences Are Are Follows : \n\n");
61 printf("'A' Has Occured = %d Times !!!\n\n", count_A);
62 printf("'E' Has Occured = %d Times !!!\n\n", count_E);
63 printf("'I' Has Occured = %d Times !!!\n\n", count_I);
64 printf("'O' Has Occured = %d Times !!!\n\n", count_O);
65 printf("'U' Has Occured = %d Times !!!\n\n", count_U);
66
67 return(0);
68 }
69
70 int MyStrlen(char str[])
71 {
72     //variable declarations
73     int j;
74     int string_length = 0;
75
76     //code
77     // *** DETERMINING EXACT LENGTH OF THE STRING, BY DETECTING THE FIRST
OCCURENCE OF NULL-TERMINATING CHARACTER ( \0 ) ***
78     for (j = 0; j < MAX_STRING_LENGTH; j++)
79     {
80         if (str[j] == '\0')
81             break;
82         else
83             string_length++;
84     }
85     return(string_length);
86 }
87
```