```c
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':
```

```c
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
            Occurences 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
```