

```
1  #include <stdio.h>
2  #include <stdlib.h>
3
4  #define MAX_STRING_LENGTH 512
5
6  int main(void)
7  {
8      //function declarations
9      char* ReplaceVowelsWithHashSymbol(char *);
10
11     //variable declaration
12     char string[MAX_STRING_LENGTH];
13     char *replaced_string = NULL;
14
15     //code
16     printf("\n\n");
17     printf("Enter String : ");
18     gets_s(string, MAX_STRING_LENGTH);
19
20     replaced_string = ReplaceVowelsWithHashSymbol(string);
21     if (replaced_string == NULL)
22     {
23         printf("ReplaceVowelsWithHashSymbol() Function Has Failed !!! Exiting ➡
24             Now...\n\n");
25         exit(0);
26     }
27
28     printf("\n\n");
29     printf("Replaced String Is : \n\n");
30     printf("%s\n\n", replaced_string);
31
32     if (replaced_string)
33     {
34         free(replaced_string);
35         replaced_string = NULL;
36     }
37
38     return(0);
39 }
40 char* ReplaceVowelsWithHashSymbol(char *s)
41 {
42     //function prototype
43     void MyStrcpy(char *, char *);
44     int MyStrlen(char *);
45
46     //varibale declarations
47     char *new_string = NULL;
48     int i;
49
50     //code
51     new_string = (char *)malloc(MyStrlen(s) * sizeof(char));
52     if (new_string == NULL)
53     {
54         printf("COULD NOT ALLOCATE MEMORY FOR NEW STRING !!!\n\n");
55         return(NULL);
```

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56     }
57
58     MyStrcpy(new_string, s);
59     for (i = 0; i < MyStrlen(new_string); i++)
60     {
61         switch (new_string[i])
62         {
63             case 'A':
64             case 'a':
65             case 'E':
66             case 'e':
67             case 'I':
68             case 'i':
69             case 'O':
70             case 'o':
71             case 'U':
72             case 'u':
73                 new_string[i] = '#';
74                 break;
75             default:
76                 break;
77         }
78     }
79
80     return(new_string);
81 }
82
83 void MyStrcpy(char *str_destination, char *str_source)
84 {
85     //function prototype
86     int MyStrlen(char *);
87
88     //variable declarations
89     int iStringLength = 0;
90     int j;
91
92     //code
93     iStringLength = MyStrlen(str_source);
94     for (j = 0; j < iStringLength; j++)
95         *(str_destination + j) = *(str_source + j);
96
97     *(str_destination + j) = '\0';
98 }
99
100 int MyStrlen(char *str)
101 {
102     //variable declarations
103     int j;
104     int string_length = 0;
105
106     //code
107     // *** DETERMINING EXACT LENGTH OF THE STRING, BY DETECTING THE FIRST
108     OCCURENCE OF NULL-TERMINATING CHARACTER ( \0 ) ***
109     for (j = 0; j < MAX_STRING_LENGTH; j++)
110     {
111         if (str[j] == '\0')
```

```
111         break;
112     else
113         string_length++;
114 }
115 return(string_length);
116 }
117
118
```