**C Array**

**1.** Write a program in C to store elements in an array and print it.   
Test Data :  
Input 10 elements in the array :  
element - 0 : 1  
element - 1 : 1  
element - 2 : 2  
.......  
Expected Output :  
Elements in array are: 1 1 2 3 4 5 6 7 8 9

**2.** Write a program in C to read n number of values in an array and display it in reverse order.   
Test Data :  
Input the number of elements to store in the array :3  
Input 3 number of elements in the array :  
element - 0 : 2  
element - 1 : 5  
element - 2 : 7  
Expected Output :  
The values store into the array are :  
2 5 7  
The values store into the array in reverse are :  
7 5 2

**3.** Write a program in C to find the sum of all elements of the array.   
Test Data :  
Input the number of elements to be stored in the array :3  
Input 3 elements in the array :  
element - 0 : 2  
element - 1 : 5  
element - 2 : 8  
Expected Output :  
Sum of all elements stored in the array is : 15

**4.** Write a program in C to copy the elements of one array into another array.   
Test Data :  
Input the number of elements to be stored in the array :3  
Input 3 elements in the array :  
element - 0 : 15  
element - 1 : 10  
element - 2 : 12  
Expected Output :  
The elements stored in the first array are :  
15 10 12  
The elements copied into the second array are :  
15 10 12

**5.** Write a program in C to count a total number of duplicate elements in an array.   
Test Data :  
Input the number of elements to be stored in the array :3  
Input 3 elements in the array :  
element - 0 : 5  
element - 1 : 1  
element - 2 : 1  
Expected Output :  
Total number of duplicate elements found in the array is : 1

**6.** Write a program in C to print all unique elements in an array.   
Test Data :  
Input the number of elements to be stored in the array :3  
Input 3 elements in the array :  
element - 0 : 1  
element - 1 : 5  
element - 2 : 1  
Expected Output :  
The unique elements found in the array are :  
5

**7.** Write a program in C to merge two arrays of same size sorted in decending order.   
Test Data :  
Input the number of elements to be stored in the first array :3  
Input 3 elements in the array :  
element - 0 : 1  
element - 1 : 2  
element - 2 : 3  
Input the number of elements to be stored in the second array :3  
Input 3 elements in the array :  
element - 0 : 1  
element - 1 : 2  
element - 2 : 3  
Expected Output :  
The merged array in decending order is :  
3 3 2 2 1 1

**8.** Write a program in C to count the frequency of each element of an array.   
Test Data :  
Input the number of elements to be stored in the array :3  
Input 3 elements in the array :  
element - 0 : 25  
element - 1 : 12  
element - 2 : 43  
Expected Output :  
The frequency of all elements of an array :  
25 occurs 1 times  
12 occurs 1 times  
43 occurs 1 times

**9.** Write a program in C to find the maximum and minimum element in an array.   
Test Data :  
Input the number of elements to be stored in the array :3  
Input 3 elements in the array :  
element - 0 : 45  
element - 1 : 25  
element - 2 : 21  
Expected Output :  
Maximum element is : 45  
Minimum element is : 21

**10.** Write a program in C to separate odd and even integers in separate arrays.   
Test Data :  
Input the number of elements to be stored in the array :5  
Input 5 elements in the array :  
element - 0 : 25  
element - 1 : 47  
element - 2 : 42  
element - 3 : 56  
element - 4 : 32  
Expected Output :  
The Even elements are :  
42 56 32  
The Odd elements are :  
25 47

**11.** Write a program in C to sort elements of array in ascending order.   
Test Data :  
Input the size of array : 5  
Input 5 elements in the array :  
element - 0 : 2  
element - 1 : 7  
element - 2 : 4  
element - 3 : 5  
element - 4 : 9  
Expected Output :  
Elements of array in sorted ascending order:  
2 4 5 7 9

**12.** Write a program in C to sort elements of the array in descending order.   
Test Data :  
Input the size of array : 3  
Input 3 elements in the array :  
element - 0 : 5  
element - 1 : 9  
element - 2 : 1  
Expected Output :  
Elements of the array in sorted descending order:  
9 5 1

**13.** Write a program in C to insert New value in the array (sorted list )..   
Test Data :  
Input the size of array : 3  
Input 3 elements in the array in ascending order:  
element - 0 : 5  
element - 1 : 7  
element - 2 : 9  
Input the value to be inserted : 8  
Expected Output :  
The exist array list is :  
5 7 9  
After Insert the list is :  
5 7 8 9

**14.** Write a program in C to insert New value in the array (unsorted list ).   
Test Data :  
Input the size of array : 4  
Input 4 elements in the array in ascending order:  
element - 0 : 1  
element - 1 : 8  
element - 2 : 7  
element - 3 : 10  
Input the value to be inserted : 5  
Input the Position, where the value to be inserted :2  
Expected Output :  
The current list of the array :  
1 8 7 10  
After Insert the element the new list is :  
1 5 8 7 10

**15.** Write a program in C to delete an element at desired position from an array.   
Test Data :  
Input the size of array : 5  
Input 5 elements in the array in ascending order:  
element - 0 : 1  
element - 1 : 2  
element - 2 : 3  
element - 3 : 4  
element - 4 : 5  
Input the position where to delete: 3  
Expected Output :  
The new list is : 1 2 4 5

**C String**

**1.**Write a program in C to input a string and print it.

Test Data :  
Input the string : Welcome, w3resource

*Expected Output* :

The string you entered is : Welcome, w3resource

**2.**Write a program in C to find the length of a string without using library function.

Test Data :  
Input the string : w3resource.com

*Expected Output* :

Length of the string is : 15

**3.**Write a program in C to separate the individual characters from a string.

Test Data :  
Input the string : w3resource.com

*Expected Output* :

The characters of the string are :

w 3 r e s o u r c e . c o m

**4.**Write a program in C to print individual characters of string in reverse order.

Test Data :  
Input the string : w3resource.com

*Expected Output* :

The characters of the string in reverse are :

m o c . e c r u o s e r 3 w

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

Test Data :  
Input the string : This is w3resource.com

*Expected Output* :

Total number of words in the string is : 3

**6.**Write a program in C to compare two string without using string library functions.

Test Data :  
Input the 1st string : This is first string  
Input the 2nd string : This is first string

*Expected Output* :

The length of both strings are equal and

also both strings are equal.

**7.** Write a program in C to count total number of alphabets, digits and special characters in a string.

Test Data :  
Input the string : Welcome to w3resource.com

*Expected Output* :

Number of Alphabets in the string is : 21

Number of Digits in the string is : 1

Number of Special characters in the string is : 4

**8.**Write a program in C to copy one string to another string.

Test Data :  
Input the string : This is a string to be copied.

*Expected Output* :

The First string is : This is a string to be copied.

The Second string is : This is a string to be copied.

Number of characters copied : 31

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

Test Data :  
Input the string : Welcome to w3resource.com

*Expected Output* :

The total number of vowel in the string is : 9

The total number of consonant in the string is : 12

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

Test Data :  
Input the string : Welcome to w3resource.com.

*Expected Output* :

The Highest frequency of character 'e'

appears number of times : 4