PF LAB 2

TOPIC: One D Array (integer/Floating/Char Array)

Q1. Write a C++ program that counts all the odd values in an integer array of size 5 using loop and display with appropriate message.

Expected Output:

// For sample array 5
Input array: [2 -3 15 98 61]
Odd Count= 3

Q2. Write a C++ program that calculates and display the sum of all the odd values of an integer array of size 10. Also display their average.

Expected Output:

// For sample array 5
Input array: [2 -3 15 98 61]
Odd Values sum =73
Average =24.33

Q3. Write a program in C++ to copy first n elements of one integer array of size 10 into another array. (1>=n<=size).

***Expected Output*:**

Input 10 elements in the array :
element - 0 : 15
element - 1 : 10
element - 2 : 12
element - 3 : -5
element - 4 : 20
element - 5 : 2
element - 6 : 445
element - 7 : 100
element - 8 : -12
element - 9 : 1

Input n: 3
The elements stored in the first array are :
15 10 12 -5 20 2 445 100 -12 1
The elements copied into the second array are :
15 10 12

Q4. Write a C++ program that creates a one dimensional array of 5 integer elements named **array1**, initialize it and then copies their contents in reverse order to another array named **array2** of 5 elements. And then display all the contents of array1 and array2 in the following format.

Expected Output:
// For sample array 5
Input array1: [2 -3 15 98 61]

	0	**1**	**2**	**3**	**4**
Array1:	2	-3	15	98	61
Array2:	61	98	15	-3	2

Q5. Write a C++ program that creates an array of size 10, but initialize only n elements of that array , where n >=1 && n<=10 and display only initialized elements with their names.

Q6. Write a program in C++ to search an integer from n unique elements of an integer array of size 10.
Display the index of its last occurrence where it exist followed by the message “last occurrence found at __ index” if exists and “not found” if it doesn’t.

(1>=n<=size).

***Expected Output*:**

Sample 1:

Input n: 6
Input 6 elements in the array: 15 20 12 -5 20 2
Input value to search : 20
last occurrence found at index 4

Sample 2:

Input n: 8
Input 8 elements in the array: 15 10 12 -5 20 2 1 89
Input value to search : -1
not found

Sample 3:

Input n: 8
Input 8 elements in the array: 15 10 12 -5 20 2 1 89
Input value to search: 12
last occurrence found at index 2

Q7. Write a C++ program that creates an array of size 10, and store in it all the factors of a number n, where n should be positive and less than equals to 10. Display the count of factors along with the factors stored in array created above in the format given below.

Expected Output:
Input n: 87
Invalid input, (n must be greater than 0 and less than 11).

Input n: 8
8 has total 4 factors as follows: 1, 2, 4 ,8

Q8. Write a C++ program that creates a char array of size 10, Initialize it with some letters and numbers and symbols. Count all the lowercase alphabets /upper case alphabets/digits/symbols/vowels.

Expected Output:
Input array (numbers , letters, symbols): aX$123IokE
Lowercase Alphabet count: 4
Uppercase Alphabet count: 2
Digits count: 3
Symbols Count: 1
Vowel Count: 3