National University of Computer and Emerging Sciences

Lab Manual # 7

Programming Fundamentals Lab

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Section	BCS-1k
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Objectives:

In this lab, students will practice:

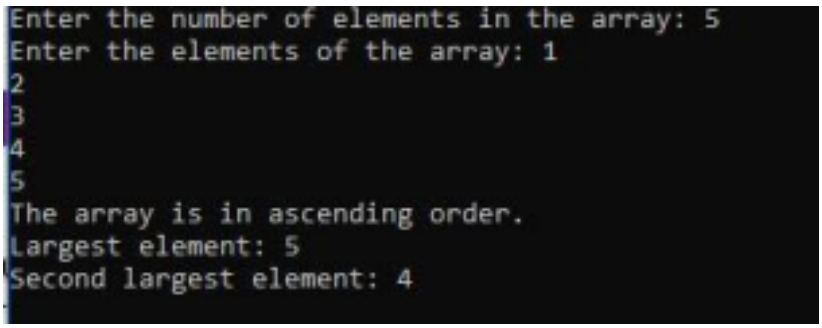
- String
- Arrays

- Functions

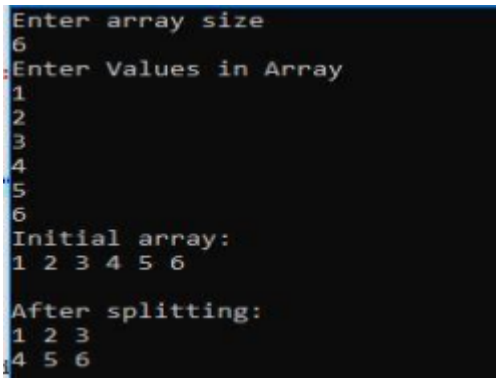
Questions:

1. Write a C++ program that takes a string as input from the user and then reverses the string, printing the reversed string as the output.

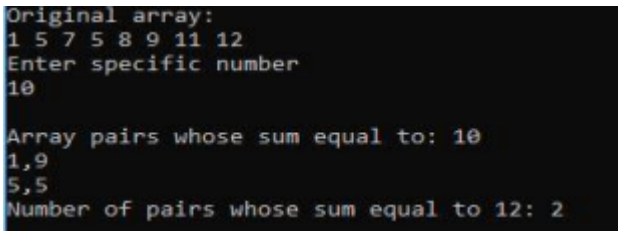
2. Write a Simple C++ program using int Arrays in which you are given an integer array and you need to determine if the elements in the array are in ascending order, descending order or neither. Also print the largest and second largest elements if the array is sorted in any order.



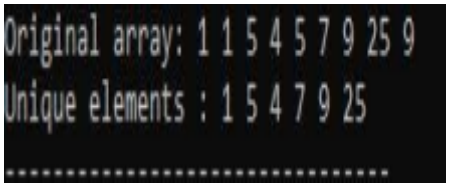
3. Take an array of 6 elements. Split it into middle and store the elements in two different arrays.



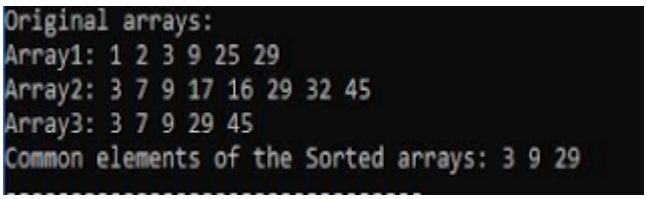
4. Write a C++ program that use the Arrays to find the number of pairs whose sum is equals to the user defined number.



5. Write a C++ program that remove all the duplicates elements and print each element only once in the same occurring order.



6. Write a C++ program to find the all same elements that are common in 3 arrays. All the values in arrays are in sorted order.



7. Write a C++ program that can find the Complement of two initially populated arrays (Sets). Declare two int arrays A1 and A2 of size 10, now find the Difference/Complement between these two arrays (i.e. A1-A2 = All Elements of set A1 that are not present in set A2) and store the result in a third array A3.

   Note: The arrays A1 and A2 are pre-sorted and you have to use only single loops to solve this problem. Do not use Nested loops.

   Sample Run:
   A1: 1 3 6 9 10
   A2: 2 3 10 12 14

   Output:
   A3: 1 6 9

   OR

   A1: 2 7 8 15 87
   A2: 15 63 71 87 91

   Output:
   A3: 2 7 8

8. Write a program that calculate the factorial of a number using a function. This program should call the function by value from main function.

9. Implement a simple calculator using functions for addition, subtraction, multiplication, and division and it from main function. The choice is given to user what he wants to perform. For example: If the user choose addition, the program should ask two value and call the addition function by passing these two values.

10. [illegible]