



FACULTY OF COMPUTER SCIENCE AND ENGINEERING
Ghulam Ishaq Khan Institute of Engineering Sciences and Technology, Topi

Lab Duration: 3 hrs.

CS112 Object Oriented Programming Lab

Marks: 10

Lab No: 03

Instructor: Mr. Usman Haider

Dated: 28/02/2022

Before performing tasks, keep in mind the following rules:

1. **CHEATING IS NOT ALLOWED.** Looking at someone's else screen is also cheating.
2. **Mobile phone and internet usage are not allowed.**
3. If you have any queries related to the task, you can ask instructors only. **Never talk to each other until you are allowed.**
4. Do not answer any query until you are asked.
5. Perform all the tasks.
6. Avoiding any of the above rules will lead to marks deduction.

Task 1:

Write a program that transforms an array into an array of its differences repeatedly until there exists only one element left. A difference is $A[n+1] - A[n]$

Note: Initialize arrays using dynamic memory allocation.

Sample Input:

Enter Array: [5 1 9 3 4 0]

Sample Output:

Resultant Array: [-4 8 -6 1 -4]

Task 2:

Write a C++ program to find the second lowest and highest numbers in a given array. Take array size and elements at run time from the user.

Note: Initialize the array using dynamic memory allocation.

Sample Input:

Enter Array size: 10

Enter Array Elements: 50 6 8 19 7 61 2 1 8 9

Sample Output:

Second lowest: 2

Second Highest: 50

Task 3:

Write a C++ program to move all negative elements of an array of integers to the end of the array without changing the order of positive element and negative element. Take array size and elements at run time from the user.

Note: Initialize the array using dynamic memory allocation.

Sample Input:

Enter Array size: 10

Enter Array Elements: -5 6 8 -9 -7 -6 2 1 8 9

Sample Output:

Input Array: -5 6 8 -9 -7 -6 2 1 8 9

Your array: 6 8 2 1 8 9 -5 -9 -7 -6