**Bahria University, Lahore Campus**

Department of Computer Science

Lab Journal 02

**(Spring 2023)**

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| Course: | **Data Structures and Algorithm - Lab** | Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Course Code: | CSL-221 | Max Marks: 10 |
| Faculty’s Name: | Fatima Zulfiqar |  |

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enroll No: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Objective(s):

Upon completion of this lab session, learners will be able to:

* Define structures
* Define & Implement an Array of Structures
* Pass Structure to Function
* Implement bubble sort and selection sort algorithm.

## Lab Tasks:

**Task 1**

Write a program to create structure named employee. Take information of 10 employees from user as input (EmpID, EmpName, EmpAge, EmpSalary) Display the output. The program should be implemented using a function.

**Task 2**

Enter the marks of 10 students in Computer Programming, ICT and Object-Oriented Programming (each out of 100) using a structure named ***Marks*** having elements roll no., name, cp\_marks, oop\_marks, and dsa\_marks, and then display the percentage of each student.

**Task 3**

Sort employee information from Task 1 according to the decreasing order the employee salary. Use bubble sort algorithm and display complete information before and after sorting.

**Task 4**

Sort students information from Task 2 in such a way that the information of student who got least percentage should be displayed first. Use selection sort algorithm in this case. Also display complete information before and after sorting.

**Lab Grading Sheet :**

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| --- | --- | --- | --- |
| **Task** | **Max Marks** | **Obtained Marks** | **Comments(*if any*)** |
| 1. | 02 |  |  |
| 2. | 02 |  |  |
| 3. | 03 |  |  |
| 4. | 03 |  |  |
| **Total** | **10** |  | **Signature** |

**Note : Attempt all tasks and get them checked by your Lab Instructor.**