**Bahria University, Lahore Campus**

Department of Computer Science

Lab Journal 11

**(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:

* Implement Binary Search Tree (BST)
* Insert given node in a BST
* Delete nodes from BST
* Find maximum and minimum number from the BST

## Lab Tasks:

**Task 1**

Write a program to implement Binary Search Tree using following given data elements. Also display elements in the tree using inorder traversal.

**45 15 79 90 10 55 12 20 50 90 79 6**

**Task 2**

Using a tree obtained in **TASK 1**, Implement a function to insert new node in the given BST. Lets suppose, new elements to be inserted is **73, 4,** and **100.** Also display resultant tree.

**Task 3**

Implement a function to delete nodes from the given BST. You are required to delete node with value **20** from the BST obtained in **TASK** **2**. Also display the resultant tree.

**Task 4**

Write an algorithm to find maximum and minimum number from the tree obtained after completing **TASK 3**.

**Note : Attempt all tasks and get them checked by your Lab Instructor. Also for each task, attach a screenshot of the output.**

**Lab Grading Sheet :**

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