

# Rajalakshmi Engineering College

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## NeoColab\_REC\_CS23231\_DATA STRUCTURES

### REC\_DS using C\_Week 5\_CY\_Updated

Attempt : 1  
Total Mark : 30  
Marks Obtained : 0

#### Section 1 : Coding

##### 1. Problem Statement

Jake is learning about binary search trees(BST) and their operations. He wants to implement a program that can delete a node from a BST based on the given key value and print the remaining nodes in an in-order traversal.

Assist Jake in the program.

##### ***Input Format***

The first line of input consists of an integer n, representing the number of elements in BST.

The second line consists of n space-separated integers, representing the elements of the tree.

The third line consists of an integer x, representing the key value of the node to be deleted.

### **Output Format**

The first line of output prints "Before deletion: " followed by the in-order traversal of the initial BST.

The second line prints "After deletion: " followed by the in-order traversal after the deletion of the key value.

If the key value is not present in the BST, print the original tree as it is.

Refer to the sample output for formatting specifications.

### **Sample Test Case**

Input: 5

8 6 4 3 1

4

Output: Before deletion: 1 3 4 6 8

After deletion: 1 3 6 8

### **Answer**

-

**Status :** Skipped

**Marks :** 0/10

## **2. Problem Statement**

Emily is studying binary search trees (BST). She wants to write a program that inserts characters into a BST and then finds and prints the minimum and maximum values.

Guide her with the program.

### **Input Format**

The first line of input consists of an integer N, representing the number of values to be inserted into the BST.

The second line consists of N space-separated characters.

### **Output Format**

The first line of output prints "Minimum value: " followed by the minimum value of the given inputs.

The second line prints "Maximum value: " followed by the maximum value of the given inputs.

Refer to the sample outputs for formatting specifications.

### **Sample Test Case**

Input: 5

Z E W T Y

Output: Minimum value: E

Maximum value: Z

### **Answer**

-

**Status :** -

**Marks :** 0/10

## **3. Problem Statement**

Kishore is studying data structures, and he is currently working on implementing a binary search tree (BST) and exploring its basic operations. He wants to practice creating a BST, inserting elements into it, and performing a specific operation, which is deleting the minimum element from the tree.

Write a program to help him perform the delete operation.

### **Input Format**

The first line of input consists of an integer N, representing the number of elements Kishore wants to insert into the BST.

The second line consists of N space-separated integers, where each integer represents an element to be inserted into the BST.

***Output Format***

The output prints the remaining elements of the BST in ascending order (in-order traversal) after deleting the minimum element.

Refer to the sample output for formatting specifications.

***Sample Test Case***

Input: 6

5 3 8 2 4 6

Output: 3 4 5 6 8

***Answer***

-

**Status :** -

**Marks :** 0/10