



भारतीय सूचना प्रौद्योगिकी संस्थान गुवाहाटी

**INDIAN INSTITUTE OF INFORMATION TECHNOLOGY GUWAHATI**

**Data Structure Lab, B.Tech 2nd Semester**

**Assignment -9**

1. Write a C program that find the number that appeared the maximum number of times in an array in  $O(n\log n)$  time.
2. Write a C program to check whether the given binary tree is a Binary Search Tree or not. Note that the time complexity of your algorithm should be  $O(n)$ .
3. Given two BSTs, check whether the elements of them are the same or not. For example: two BSTs with data 10 5 20 15 30 and 10 20 15 30 5 should return true and the dataset with 10 5 20 15 30 and 10 15 30 20 16 should return false. Note: BSTs data can be in any order.
4. Given a BST and two numbers K1 and K2, write a C program for printing all the elements of BST in the range K1 and K2.