**Tutorial 8**

**Binary Search Trees**

**Instructions**

1. All tutorial sheets will be posted on the Google Classroom.

2. Students are advised to submit tutorial sheets solutions in classroom.

Q1. Construct a binary search tree for the following elements:

67, 32, 56, 18, 20, 13, 9, 78 and perform in-order, pre-order, post-order traversal.

Q2. Write a program to create and insert elements into a binary search tree.

Q3. Given a BST, write function to search a given key in it. The algorithm should return the parent node of the key and print if the key is the left or right node of the parent node. If the key is not present in the BST, the algorithm should be able to determine that.

Q4. Write a program to determine whether a given binary tree is a BST or not?

Q5. Write a program to delete an element from BST. Consider all possible cases when a node is a leaf node, has one child, has two children.