

## **Data Structure: Assignment #8**

### **Programming problems:**

1. Implement the following functions on binary trees:
  - a) Count the number of nodes in a binary tree.  
<https://www.geeksforgeeks.org/count-the-number-of-binary-search-trees-present-in-a-binary-tree/>
  - b) Count the number of leaves in a binary tree.  
<https://www.geeksforgeeks.org/write-a-c-program-to-get-count-of-leaf-nodes-in-a-binary-tree/>
  - c) Count the number of right children.
  - d) Search a node in a binary tree.  
<https://www.geeksforgeeks.org/search-a-node-in-binary-tree/>
  - e) Find a sub-tree in a binary tree.
  - f) Find the height of the tree.  
<https://www.geeksforgeeks.org/write-a-c-program-to-find-the-maximum-depth-or-height-of-a-tree/>
  - g) Delete all leaves from a binary tree.  
<https://www.geeksforgeeks.org/remove-leaf-nodes-binary-search-tree/>
2. In this problem, we would like to build a binary search tree from its pre-order traversal. You are given as input the pre-order traversal of a binary search tree. Please write a program to reconstruct the binary search tree from its pre-order traversal.