

CS 2412 Data Structures  
Fall, 2007

**Lab 8:**

Instructor: Dr. Ruizhong Wei (AT 5021, Ex. 8227)

Email: [rwei@lakeheadu.ca](mailto:rwei@lakeheadu.ca)

Time and location: Mon 9:30 - 10:30 a.m., AT 3001

Web: <http://peace.lakeheadu.ca/cs2412.html>

You are asked to solve some questions using recursion method.

- Write a function to find the number of nodes in a binary search tree. The basic idea is: the number of nodes of the tree = (the number of nodes of right subtree) + (the number of nodes of left tree) + 1.
- Write a function to find the height of a binary tree. The basic idea is: the height of the tree =  $\max \{ \text{the height of right subtree, the height of left subtree} \} + 1$ .
- Use your function to count the number of nodes and the height of the binary tree in your assignment 3.