[40] **Homework 5**: *Trees Algorithms and Properties*

Due: March 2, by 5:20 in PSO.

[10] Consider a binary tree represented as a linked list with pointers to the `left` and `right` subtrees (and a `data` field).

Give a simple recursive function for counting the *leaves* of such a tree.

[10] Assume that an arbitrary tree is represented by the left_most-child, right-sibling representation.

Write a recursive function HEIGHT(n:node) that returns the height of the tree rooted at node n.

[20] The *internal path length* in a tree is the sum of all paths from the root to all nodes. Give upper and lower bounds on the internal path length of a M-ary tree with N nodes.