Binary Tree Homework

Due Friday, April 4, 2008 at 9:00am in class

Complete the following problems from chapter 12, pages 310-312: **2, 8, 10** and the problems labeled I and II below.

I. Draw the parse tree for each of the following. Be careful to keep operand children in the correct order, since that matters for many operators (like subtraction).

a. 1 + x * 3

b. 5 + 6 + 7 + 8

c. ! (y || (z && b))

d. s.indexOf("hello", 4) + (3 * 2) + "world"

II. Draw three full binary trees that contain 7 nodes each.

a. Label the nodes of the first tree with the numeric order in which they are encountered by depth-first preorder traversal, starting with "0" for the first node encountered.

b. Label the nodes of the second tree with the numeric order in which they are encountered by "breadth-first" or "layer order" traversal.

c. Label the nodes of the third tree with the numeric order in which they are encountered by depth-first inorder traversal, starting with "0" for the first node encountered.