11.3 Tree Traversal

11.3 pg. 783 # 1
Construct the universal address system for the given ordered rooted tree. Then use this to order its vertices using the lexicographic order of their labels.

11.3 pg. 783 # 7
Determine the order in which a preorder traversal visits the vertices of the given ordered rooted tree.

11.3 pg. 783 # 11
Determine the order in which an inorder traversal visits the vertices of the given ordered rooted tree.
11.3 pg. 783 # 13

Determine the order in which a postorder traversal visits the vertices of the given ordered rooted tree.

11.3 pg. 784 # 17

a) Represent the expressions \((x + xy) + (x/y)\) and \(x + ((xy + x)/y)\) using binary trees.

b) Write these expressions in prefix notation.
c) Write these expressions in postfix notation.

d) Write these expressions in infix notation.

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What is the value of each of these prefix expressions?

a) $- * 2/8 4 3$

b) $↑ - * 3 3 * 4 2 5$

c) $+ - ↑ 3 2 ↑ 2 3/6 - 4 2$

d) $* + 3 + 3 ↑ 3 + 3 3 3$