Assignment 2

due Wednesday, Feb 13, 2019

1. Exercise 6.3-1, p 159 [5 points]

2. Exercise 6.5-9, p 166. [5 points]

3. Draw the binary tree whose inorder traversal is abcdefgh and whose postorder traversal is acbegfd. [6 points]

4. Consider an ordered tree $T$ and a binary tree $T'$ representing it, using the first-child next-sibling representation (section 10.4). An inorder traversal of $T'$ is equivalent to what kind of traversal of $T$? Give a brief explanation. [4 points]

5. Consider the tree of figure 1. How many different permutations of the values 1 through 10, when inserted in that order, will yield this particular tree? [6 points]

![Figure 1: The BST for problem 5.](image)

6. How many permutations of 1, 2, . . . , $n$ yield a skew tree? (Since any one skew tree is generated by just one permutation, this question is asking for the number of skew trees of $n$ nodes.) Explain your formula. [4 points]

Total: 30 points