Shaan Mathur

Smallberg

CS32

June 3, 2016

Homework 5

1.)

a.

50

20 60

10 40 70

15 30 65 80

25 35 75

b.

50

15 60

10 40 70

25 65 80

35 75

c.

Inorder: 10 15 20 25 30 35 40 50 60 65 70 75 80

Preorder: 50 20 10 15 40 30 25 35 60 70 65 80 75

Postorder: 15 10 25 35 30 40 20 65 75 80 70 60 50

2.)

a.

struct Node{

int data;

Node\* left;

Node\* right;

Node\* parent;

}

b.

function has parameters: node (to insert), currentNode, parent

if node is nullptr

Dynamically allocate a new node

Make the left, right for the new node the nullptr

Make the parent for the new node the parent from the function

Return;

If value of node < currentNode

Insert with param( node, currentNode->left , this)

Else

Insert with param(node, currentNode->right, this)

3.)

a.

7

3 6

0 1 4

b.

[7 3 6 0 1 4]

c.

[6 3 4 0 1]

4.)

1. O(C+log S)
2. O(S + logC)
3. O(log C + log S)
4. O(log S)
5. O(1)
6. O(log C + S)
7. O (S log S)
8. O(C log S)