



5. (7 pts) Write code to find and return the inorder successor of a key in a 2-3 tree. This function would be used in conjunction with a remove function and you may assume that the key is NOT already in a leaf. You may assume that the node member variable *numItems* is set to represent the number of items currently stored in that node and that for nodes with only one item, that item is stored in the *small* member variable. You may assume that the search function is written for you and it will return a pointer to the node containing the item that you search for or NULL if the item doesn't exist. You may write additional functions if necessary. Use the following class definitions:

```

class Tree {
friend class Node;
private:
    Node* root;
    Node* search (itemtype);
public:
    Node* inorderSuccessor(itemtype);
};

```

```

class Node {
private:
    Node *left, *middle, *right;
    itemtype small, large;
    int numItems;
};

```

```

Node*
Tree::inorderSuccessor ( itemtype key ) {

```

**What is the big oh running time of your function?**

