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#include <iostream>

using namespace std;

class BST {
    int data;
    BST *left, *right;
public:
    BST() : data(0), left(NULL), right(NULL) {}
    BST(int value) : data(value), left(NULL), right(NULL) {}

    BST* insert(BST*, int);
    void inorder(BST*);
    BST* search(BST*, int);
    int minvalue(BST*);
    void mirror(BST*);
    int height(BST*);
};

BST* BST::insert(BST* root, int value) {
    if (!root) return new BST(value);
    if (value < root->data) root->left = insert(root->left, value);
    else if (value > root->data) root->right = insert(root->right, value);
    return root;
}

void BST::inorder(BST* root) {
    if (!root) return;
    inorder(root->left);
    cout << root->data << " ";
    inorder(root->right);
}

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BST* BST::search(BST* root, int key) {
    if (!root || root->data == key) return root;
    if (key < root->data) return search(root->left, key);
    return search(root->right);
}

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int BST::minvalue(BST* root) {
    if (!root) return -1;
    while (root->left) root = root->left;
    return root->data;
}

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void BST::mirror(BST* root) {
    if (!root) return;
    swap(root->left, root->right);
    mirror(root->left);
    mirror(root->right);
}

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int BST::height(BST* root) {
    if (!root) return -1;
    return max(height(root->left), height(root->right)) + 1;
}

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int main() {
    BST b, *root = NULL;
    int ch, n, value, key;

    while (true) {
        cout << "\\n1) Insert new node"

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    << "\\n2) Height of the tree"
    << "\\n3) Minimum Value"
    << "\\n4) Mirror the tree"
    << "\\n5) Search"
    << "\\n6) Display (Inorder)"
    << "\\n7) Exit\\n";
cout << "Enter your choice: ";
cin >> ch;

switch (ch) {
    case 1:
        cout << "Enter number of elements to insert: ";
        cin >> n;
        for (int i = 0; i < n; ++i) {
            cout << "NUMBER = ";
            cin >> value;
            root = b.insert(root, value);
        }
        cout << "Inorder Traversal: ";
        b.inorder(root);
        cout << endl;
        break;

    case 2:
        cout << "Height (Longest path in edges): " << b.height(root) << endl;
        break;

    case 3:
        cout << "Minimum Value = " << b.minvalue(root) << endl;
        break;
}

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case 4:

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cout << "Original Tree (Inorder): ";  
b.inorder(root);  
cout << endl;  
b.mirror(root);  
cout << "Mirrored Tree (Inorder): ";  
b.inorder(root);  
cout << endl;  
break;
```

case 5:

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cout << "Enter key to search: ";  
cin >> key;  
if (b.search(root, key))  
    cout << key << " found" << endl;  
else  
    cout << key << " not found" << endl;  
break;
```

case 6:

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cout << "Inorder Traversal: ";  
b.inorder(root);  
cout << endl;  
break;
```

case 7:

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return 0;
```

default:

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cout << "Invalid choice!" << endl;
```

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}
```

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}
```

```
return 0;
```

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}
```

Output:

Input: 50, 30, 70, 20, 40, 60, 80

Inorder Traversal: 20 30 40 50 60 70 80

Height (Longest path in edges): 2

Minimum Value = 20

Original Tree (Inorder): 20 30 40 50 60 70 80

Mirrored Tree (Inorder): 80 70 60 50 40 30 20

Search 60: 60 found