```cpp
#include <iostream>

#include <algorithm>

using namespace std;


struct Node {

int data;

Node* left;

Node* right;

Node(int value) : data(value), left(nullptr), right(nullptr) {}

};


Node* insert(Node* root, int value) {

if (root == nullptr)

return new Node(value);

if (value < root->data)

root->left = insert(root->left, value);

else
```

```cpp
    root->right = insert(root->right, value);

    return root;

}


bool search(Node* root, int value) {

    if (root == nullptr)

        return false;

    if (root->data == value)

        return true;

    return value < root->data ? search(root->left, value) : search(root->right, value);

}


int depth(Node* root) {

    if (root == nullptr)

        return 0;

    return 1 + max(depth(root->left), depth(root->right));

}
```

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void displayLeafNodes(Node* root) {

if (root == nullptr)

return;

if (root->left == nullptr && root->right == nullptr) {

cout << root->data << " ";

return;

}

displayLeafNodes(root->left);

displayLeafNodes(root->right);

}


int main() {

Node* root = nullptr;

int choice, value;



while (true) {
```

```cpp
cout << "\nMenu:\n";

cout << "1. Insert\n";

cout << "2. Search\n";

cout << "3. Display Depth\n";

cout << "4. Display Leaf Nodes\n";

cout << "5. Exit\n";

cout << "Enter your choice: ";

cin >> choice;




switch (choice) {

case 1:

cout << "Enter value to insert: ";

cin >> value;

root = insert(root, value);

break;

case 2:

cout << "Enter value to search: ";
```

```cpp
            cin >> value;

            if (search(root, value))

                cout << "Found\n";

            else

                cout << "Not Found\n";

            break;

        case 3:

            cout << "Depth of the tree: " << depth(root) << endl;

            break;

        case 4:

            cout << "Leaf Nodes: ";

            displayLeafNodes(root);

            cout << endl;

            break;

        case 5:

            cout << "Exiting program.\n";

            return 0;

        default:
```

```cpp
            cout << "Invalid choice. Please try again.\n";

        }

    }

}
```