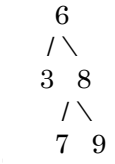
Search in C++

```
#include <iostream>
using namespace std;

// Define Node structure for BST
struct Node {
    int key;
    Node *left, *right;

     Node(int item) {
        key = item;
        left = nullptr;
        right = nullptr;
    }
};

// Function to search for a node in BST
bool searchInBST(Node* root, int k) {
    if (root == nullptr) {
        return false;
    }
    if (root->key == k) {
        return true;
    }
    if (k < root->key) {
        return searchInBST(root->left, k);
    }
    if (k > root->key) {
        return searchInBST(root->right, k);
    }
    return false;
}

int main() {
    // Create the BST
    Node* root = new Node(6);
    root->left = new Node(3);
    root->right = new Node(8);
    root->right->left = new Node(7);
    root->right->right = new Node(9);

    // Search for nodes from 0 to 9
    for (int i = 0; i < 10; i++) {
        cout << i << " is Present? " << (searchInBST(root,
i) ? "Yes" : "No") << endl;
    }

    return 0;
}
```

BST Structure:



🔍 Dry Run Table (Step-by-step trace of function calls):

Value k	Function Calls	Found?
0	6 → 3 → nullptr	No
1	6 → 3 → nullptr	No
2	6 → 3 → nullptr	No
3	6 → 3	✅ Yes
4	6 → 3 → nullptr	No
5	6 → 3 → nullptr	No
6	6	✅ Yes
7	6 → 8 → 7	✅ Yes
8	6 → 8	✅ Yes
9	6 → 8 → 9	✅ Yes

🖨 Output:

```
0 is Present? No
1 is Present? No
2 is Present? No
3 is Present? Yes
4 is Present? No
5 is Present? No
6 is Present? Yes
7 is Present? Yes
8 is Present? Yes
9 is Present? Yes
```


0 is Present? No
1 is Present? No
2 is Present? No
3 is Present? Yes
4 is Present? No
5 is Present? No
6 is Present? Yes
7 is Present? Yes
8 is Present? Yes
9 is Present? Yes