

```
class Person {
public:
    bool operator<(const Person& rhs) const;
    bool operator==(const Person& rhs) const;
    ...
};

bool operator<(const Person& rhs) const
{
    return name < rhs.name;
}

bool operator==(const Person& rhs) const
{
    return name == rhs.name;
}

std::ostream& operator<<(std::ostream& os, const Person& p)
{
    p.display(os);
    return os;
}
```

```
int main()
{
    BinarySearchTree<Person> tree;
    Person p;
    for (int i=0; i < 10; ++i)
    {
        p.populate();
        tree.insert(p);
    }
    tree.inorder();
    ...
}
```

```
template <typename T>
void BinarySearchTree<T>::insert(const T& item)
{
    insert(root, item);
}
```

```
template <typename T>
void BinarySearchTree<T>::insert(Node<T>*& r, const T& item)
{
    using namespace std;
    if (r == nullptr) {
        r = new Node<T>;
        r->value = item;
        r->left = nullptr;
        r->right = nullptr;
    }
    else if (item < r->value) {
        insert(r->left, item);
    }
    else if (r->value < item) {
        insert(r->right, item);
    }
    else {
        cout << "Duplicate node" << endl;
    }
}
```

```
template <typename T>
```

```
T* BinarySearchTree<T>::search(Node<T>* r, const T& item)
```

```
const
```

```
{
```

```
    T* result;
```

```
    if (r == nullptr) {
```

```
        result = nullptr;
```

```
    }
```

```
    else if (item < r->value) {
```

```
        result = search(r->left, item);
```

```
    }
```

```
    else if (r->value < item) {
```

```
        result = search(r->right, item);
```

```
    }
```

```
    else {
```

```
        result = new T(r->value);
```

```
    }
```

```
    return result;
```

```
}
```