

## **//CODE: sorting and searching using STL**

```
#include<iostream>

#include<vector>

#include<algorithm>

#include<string>

using namespace std;

class Person
{
    public:
        string name;
        string dob;
        string telephone;
        Person(string n,string d,string t)
        {
            name=n;
            dob=d;
            telephone=t;
        }
        void display() const
        {
            cout<<"Name: "<<name<<",DOB: "<<dob<<",Telephone: "<<telephone<<endl;
        }
};

bool comparebyname(Person& p1, Person& p2)
{
    return p1.name<p2.name;
}

bool searchbyname(Person& p, string& name)
```

```

{
    return p.name==name;
}

int main()
{
    vector <Person> people;
    people.push_back(Person("John Doe","1990-05-24","555-1234"));
    people.push_back(Person("Alice Smith","1985-07-19","555-5678"));
    people.push_back(Person("Bob Johnson","1992-03-11","555-8765"));
    people.push_back(Person("Charlie Brown","1988-09-30","555-3456"));
    cout<<"Originsl list of people:"<<endl;
    for (auto& person : people)
    {
        person.display();
    }
    sort(people.begin(),people.end(),comparebyname);
    cout<<endl;
    cout<<"Sorted list of people by name:"<<endl;
    for (auto& person : people)
    {
        person.display();
    }
    string searchname;
    cout<<endl<<"Enter the name of the person to search:";
    getline(cin,searchname);

    auto it = find_if(people.begin(),people.end(),[&searchname](Person& p){return
searchbyname(p,searchname);});
    if (it!=people.end()){
        cout<<"Record found:"<<endl;
        it->display();
    }
}

```

```

    }
else
{
    cout<<"Record not found."<<endl;
}
return 0;
}

```

## **//OUTPUT:**

```

Originsl list of people:
Name: John Doe,DOB: 1990-05-24,Telephone: 555-1234
Name: Alice Smith,DOB: 1985-07-19,Telephone: 555-5678
Name: Bob Johnson,DOB: 1992-03-11,Telephone: 555-8765
Name: Charlie Brown,DOB: 1988-09-30,Telephone: 555-3456

Sorted list of people by name:
Name: Alice Smith,DOB: 1985-07-19,Telephone: 555-5678
Name: Bob Johnson,DOB: 1992-03-11,Telephone: 555-8765
Name: Charlie Brown,DOB: 1988-09-30,Telephone: 555-3456
Name: John Doe,DOB: 1990-05-24,Telephone: 555-1234

Enter the name of the person to search:Charlie Brown
Record found:
Name: Charlie Brown,DOB: 1988-09-30,Telephone: 555-3456

```