Name: **Noman Siddique**

Roll Number: **19P1664**

Subject: **Software Design and Architecture**

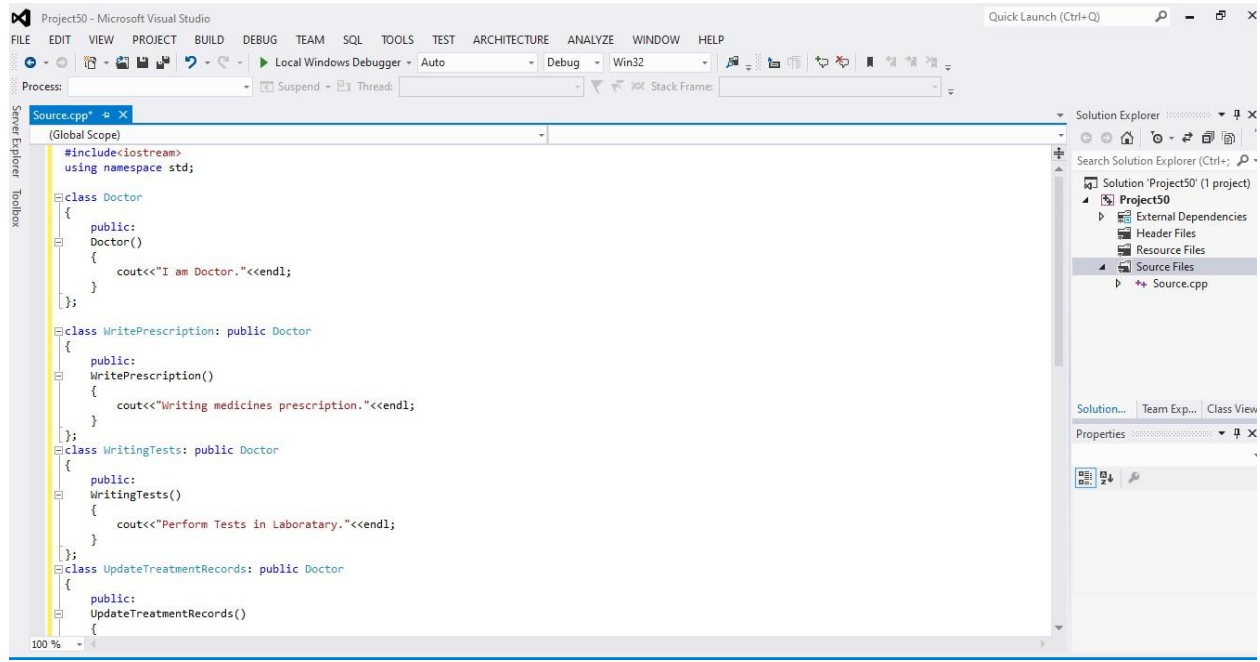**Lab Task:** **13**

Instructor: **Usama Musharraf**

1. No of Components:

1. Doctor
2. hospital System
3. Patient
4. Nurse
5. Pharmacist/Chemist

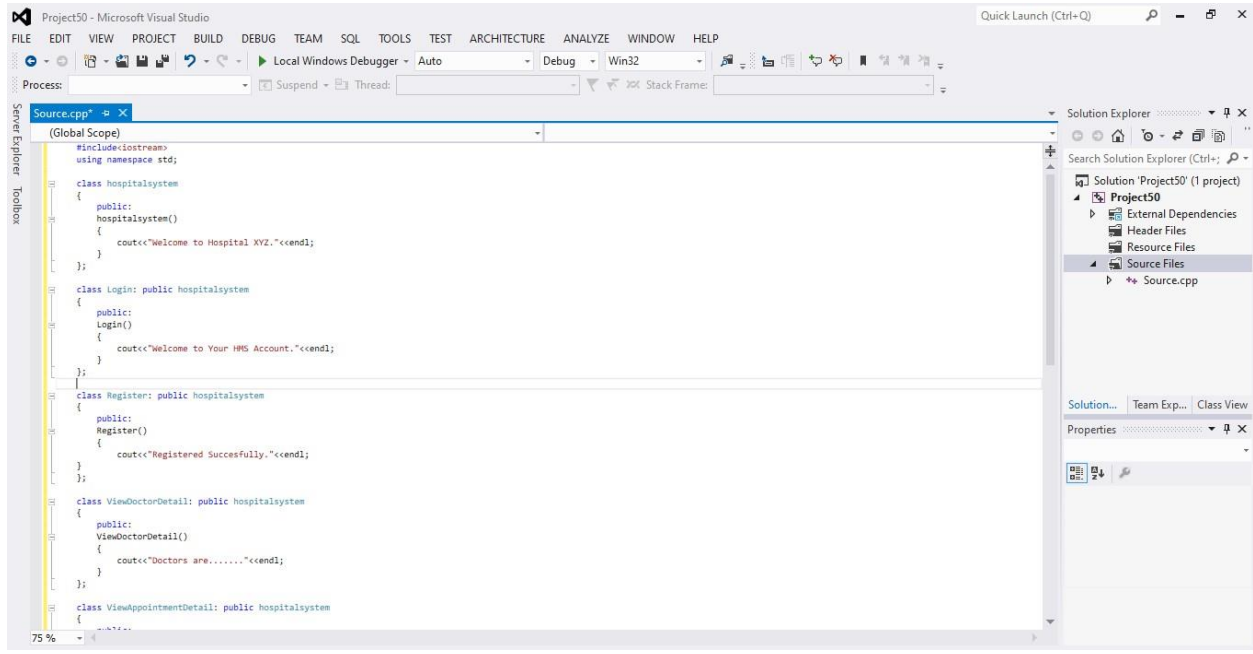**No of Components (sys) = 5**

DESIGNING EACH COMPONENT

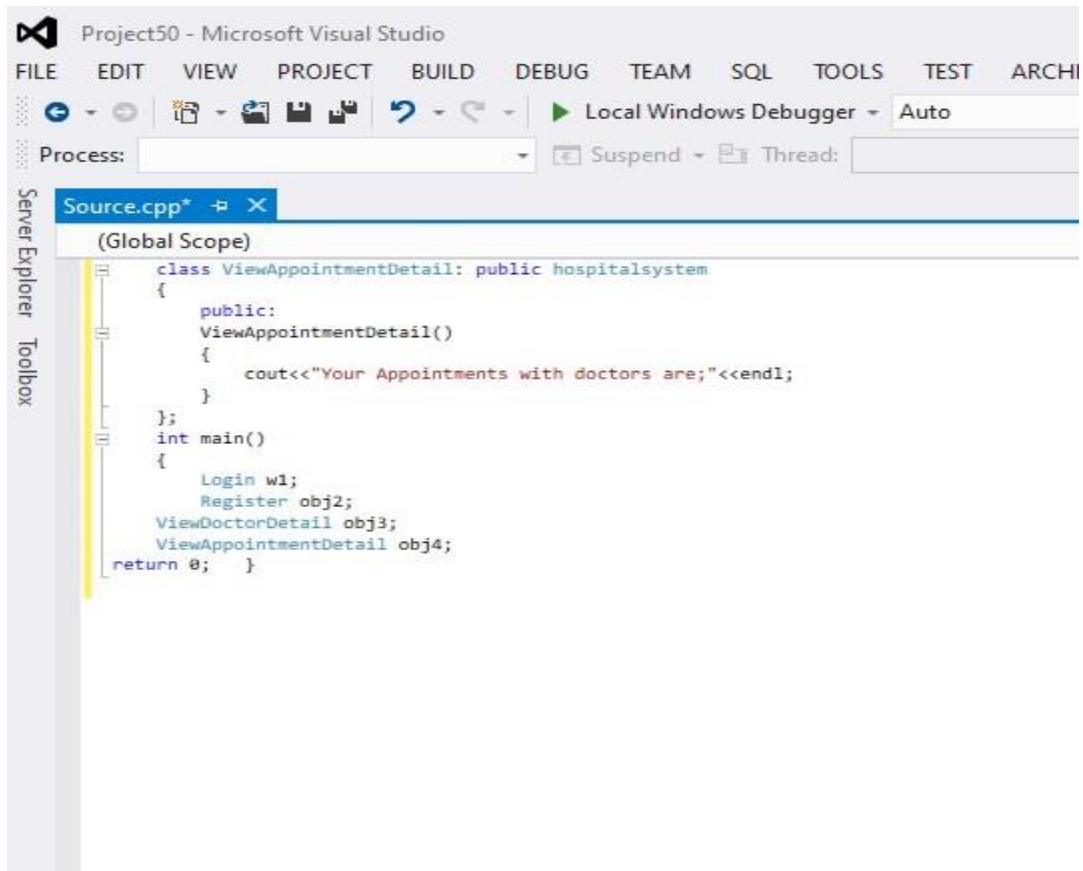# *Doctor:*

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

class Doctor
{
    public:
    Doctor()
    {
        cout<<"I am Doctor."<<endl;
    }
};

class WritePrescription: public Doctor
{
    public:
    WritePrescription()
    {
        cout<<"Writing medicines prescription."<<endl;
    }
};
class WritingTests: public Doctor
{
    public:
    WritingTests()
    {
        cout<<"Perform Tests in Laboratary."<<endl;
    }
};
class UpdateTreatmentRecords: public Doctor
{
    public:
    UpdateTreatmentRecords()
    {
```

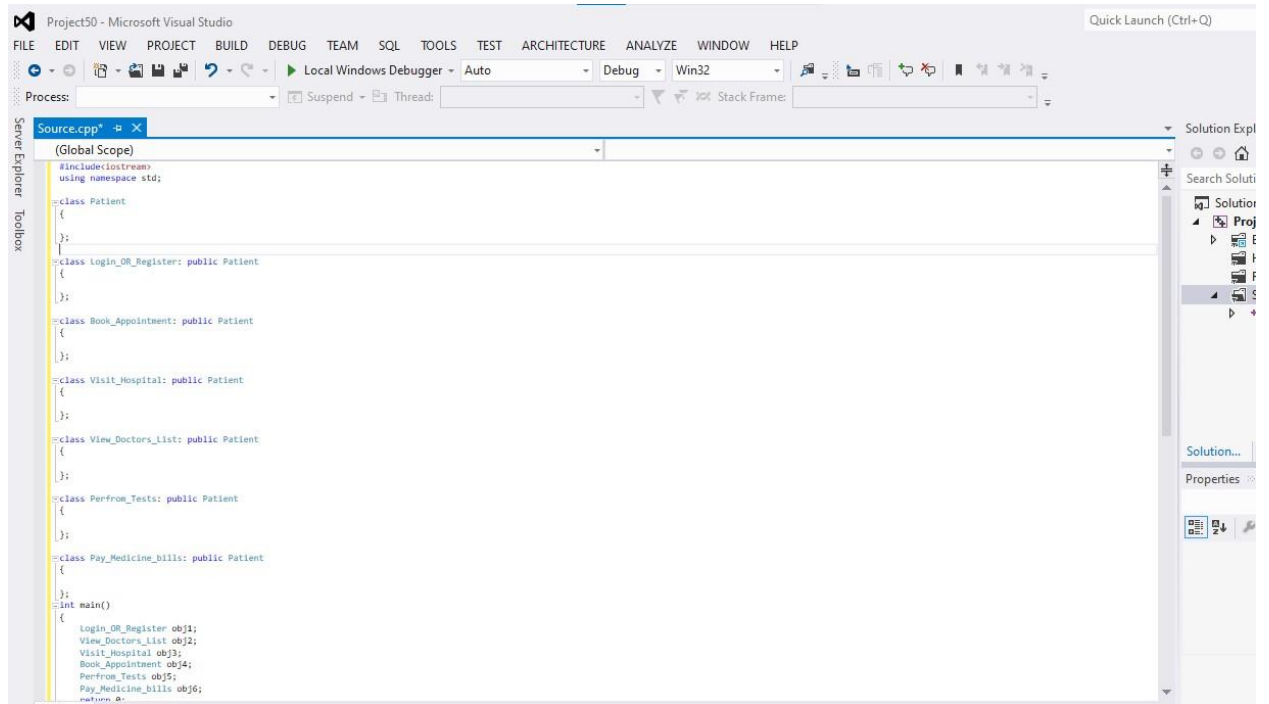Source.cpp* ⊕ ✕

(Global Scope)

```cpp
};
class UpdateTreatmentRecords: public Doctor
{
    public:
    UpdateTreatmentRecords()
    {
        cout<<"Record Updated..."<<endl;
    }
};

int main()
{
    WritePrescription w1;
    WritingTests obj2;
    UpdateTreatmentRecords obj3;
    return 0;
}
```
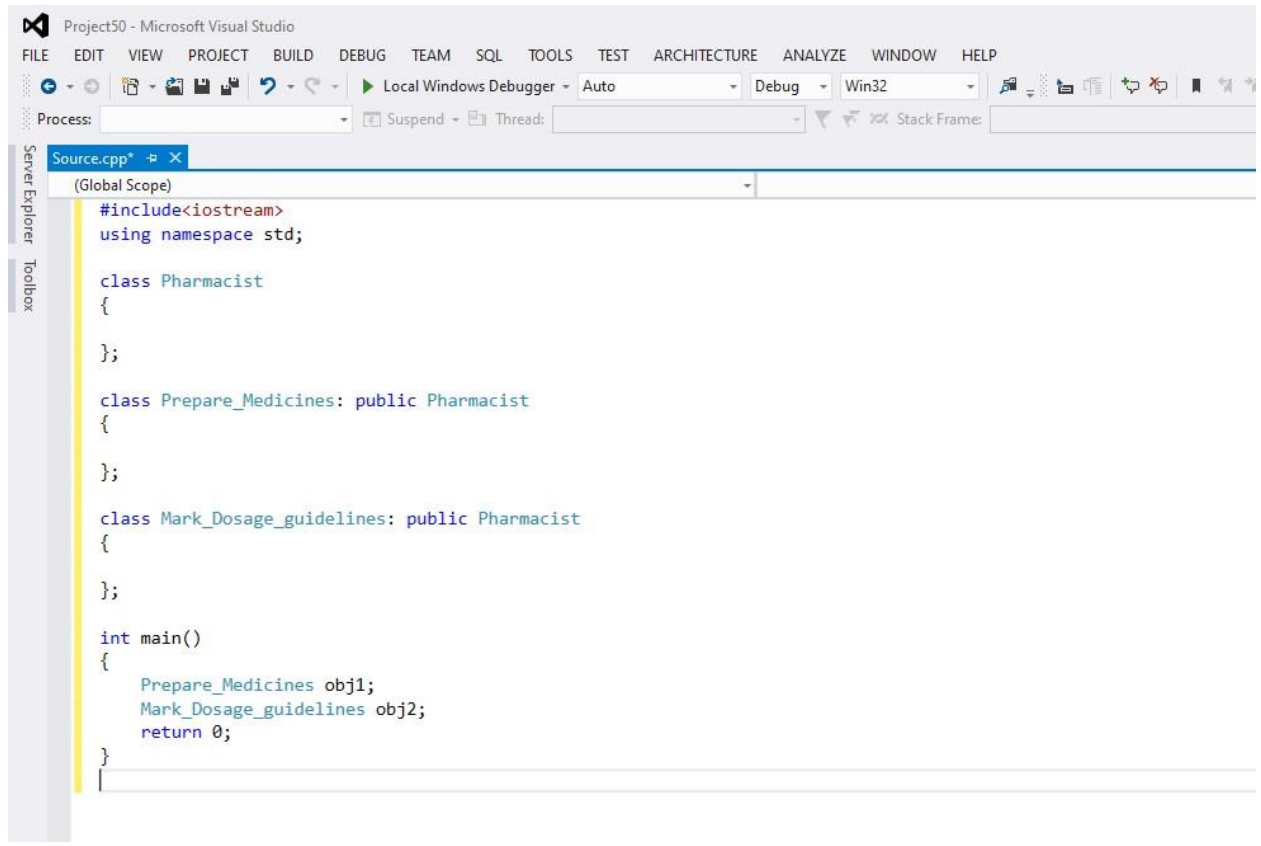
Hospital system:


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

class hospitalsystem
{
    public:
    hospitalsystem()
    {
        cout<<"Welcome to Hospital XYZ."<<endl;
    }
};

class Login: public hospitalsystem
{
    public:
    Login()
    {
        cout<<"Welcome to Your HMS Account."<<endl;
    }
};

class Register: public hospitalsystem
{
    public:
    Register()
    {
        cout<<"Registered Succesfully."<<endl;
    }
};

class ViewDoctorDetail: public hospitalsystem
{
    public:
    ViewDoctorDetail()
    {
        cout<<"Doctors are......."<<endl;
    }
};

class ViewAppointmentDetail: public hospitalsystem
{
```

Local Windows Debugger ▾ Auto

Process: ▾   Suspend ▾ Thread:

Source.cpp* ⊣ ✕

(Global Scope)

```cpp
class ViewAppointmentDetail: public hospitalsystem
{
    public:
    ViewAppointmentDetail()
    {
        cout<<"Your Appointments with doctors are;"<<endl;
    }
};
int main()
{
    Login w1;
    Register obj2;
    ViewDoctorDetail obj3;
    ViewAppointmentDetail obj4;
    return 0;    }
```

Patient:


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

class Patient
{

};

class Login_OR_Register: public Patient
{

};

class Book_Appointment: public Patient
{

};

class Visit_Hospital: public Patient
{

};

class View_Doctors_List: public Patient
{

};

class Perfrom_Tests: public Patient
{

};

class Pay_Medicine_bills: public Patient
{

};
int main()
{
    Login_OR_Register obj1;
    View_Doctors_List obj2;
    Visit_Hospital obj3;
    Book_Appointment obj4;
    Perfrom_Tests obj5;
    Pay_Medicine_bills obj6;
    return 0;
}
```

Chemist/Pharmacist:

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

class Pharmacist
{

};

class Prepare_Medicines: public Pharmacist
{

};

class Mark_Dosage_guidelines: public Pharmacist
{

};

int main()
{
    Prepare_Medicines obj1;
    Mark_Dosage_guidelines obj2;
    return 0;
}
```
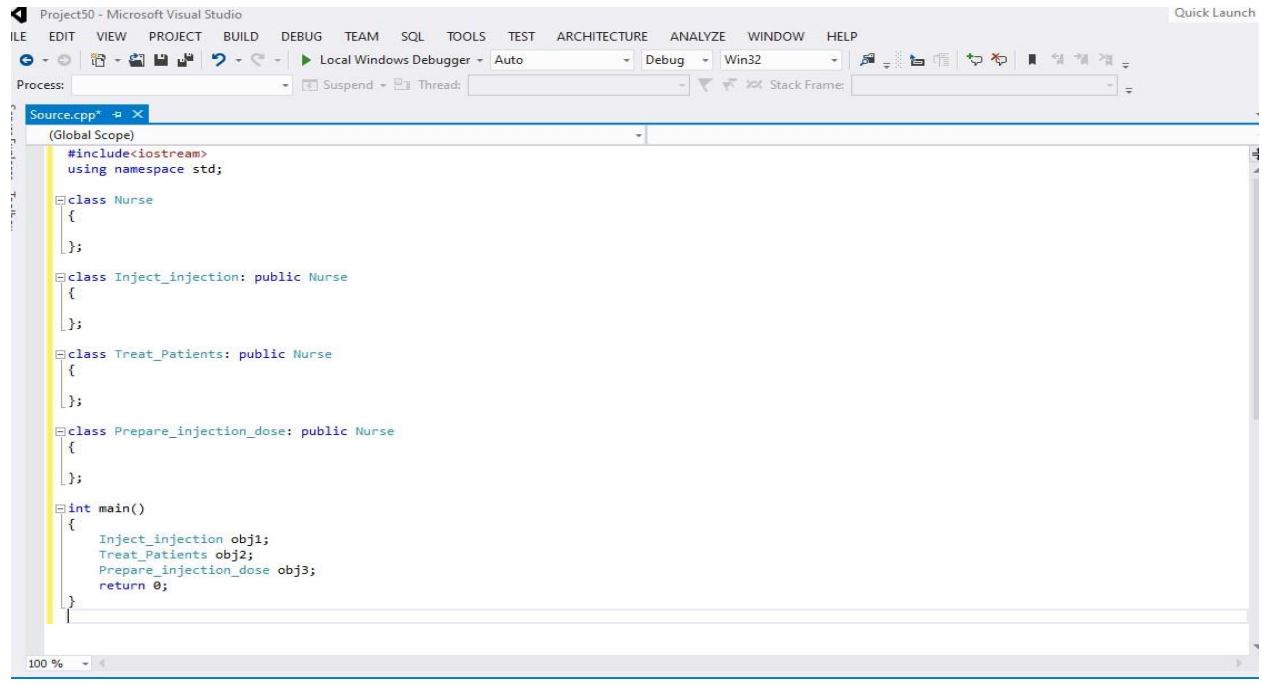
Nurse:

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

class Nurse
{

};

class Inject_injection: public Nurse
{

};

class Treat_Patients: public Nurse
{

};

class Prepare_injection_dose: public Nurse
{

};

int main()
{
    Inject_injection obj1;
    Treat_Patients obj2;
    Prepare_injection_dose obj3;
    return 0;
}
```