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Course: Software Design and Architecture

Task # 13

Design each component of your architecture in

terms of

classes and objects.

Follow SOLID Design Principles

1. No of Components:

- 1. Receptionist
- 2. Doctor
- 3. hospital System
- 4.Staff
- 5. Patient
- 6. Cashier
- 7. Pharmacist
- 8. Nurse

No of Components (sys) = 8

Designing Each Component as Classes and Objects

Receptionist:

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    (Global Scope)
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          #include<iostream>
using namespace std;
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                                                                                                                                                  Solution 'Project50' (1 project)
          class Receptionist

    Project50
    External Dependencies
    Header Files
              Receptionist(){}
                                                                                                                                                 Resource Files

Source Files
             class RegisterPatients: public Receptionist
          {
                                                                                                                                                      b ++ Source.cpp
          }; class MarkAttendanceofStaff: public Receptionist
          };
class BookAppointment: public Receptionist
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          };
          int main()s
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Doctor:

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Source.cpp* 4 X

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                      #include<iostream>
using namespace std;
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                  ⊡class Doctor
                                                                                                                                                                                                                                                                                                                                                                                                                                                        public:
                                Doctor()
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Resource Files
                              {
    cout<<"I am Doctor."<<endl;
}
                                                                                                                                                                                                                                                                                                                                                                                                                                                     b ++ Source.cpp
                  □class WritePrescription: public Doctor
                                 WritePrescription()
                              {
    cout<<"Writing medicines prescription."<<endl;
}
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Solution... Team Exp... Class View
                    };
∃class WritingTests: public Doctor
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Properties ▼ ¼ X
                                                                                                                                                                                                                                                                                                                                                                                                                                                      n 2 ↓ &
                                WritingTests()
                              {
    cout<<"Perform Tests in Laboratary."<<endl;
}
                     };
aclass UpdateTreatmentRecords: public Doctor
                                 UpdateTreatmentRecords()
```

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LE EDIT VIEW PROJECT BUILD DEBUG TEAM SQL TOOLS TEST
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    Suspend → □ Thread:
Process:
 Source.cpp* → X
    (Global Scope)
    □class UpdateTreatmentRecords: public Doctor
      {
          public:
    UpdateTreatmentRecords()
             cout<<"Record Updated..."<<endl;
     };
    ⊡int main()
         WritePrescription w1;
          WritingTests obj2;
          UpdateTreatmentRecords obj3;
          return 0;
```

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                PROJECT BUILD DEBUG TEAM SQL TOOLS TEST
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Process:
 Source.cpp* → X
    (Global Scope)
    □class UpdateTreatmentRecords: public Doctor
      {
          public:
    Ė
          UpdateTreatmentRecords()
              cout<<"Record Updated..."<<endl;
     };
    ⊡int main()
          WritePrescription w1;
          WritingTests obj2;
          UpdateTreatmentRecords obj3;
          return 0;
```

Hospital system:

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Quick Launch (Ctrl+Q)
Project50 - Microsoft Visual Studio
FILE EDIT VIEW PROJECT BUILD DEBUG TEAM SQL TOOLS TEST ARCHITECTURE ANALYZE WINDOW HELP

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            (Global Scope)

#include<iostream>
using namespace std;
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                                                                                                                                                                                                                                                                                                                                                                    Search Solution Explorer (Ctrl+; P -
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                      class hospitalsystem

    Project50
    Project50
    En External Dependencies
                            public:
hospitalsystem()
                                                                                                                                                                                                                                                                                                                                                                                        Header Files
                                  cout<<"Welcome to Hospital XYZ."<<endl;
                                                                                                                                                                                                                                                                                                                                                                          Resource Files

Source Files
                      class Login: public hospitalsystem
                                                                                                                                                                                                                                                                                                                                                                                        b ++ Source.cpp
                            cout<<"Welcome to Your HMS Account."<<endl;
                      class Register: public hospitalsystem
                                                                                                                                                                                                                                                                                                                                                                           Solution... Team Exp... Class View
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                                 cout<<"Registered Succesfully."<<endl;
                                                                                                                                                                                                                                                                                                                                                                           0 Z4 &
                     class ViewDoctorDetail: public hospitalsystem
{
                            public:
ViewDoctorDetail()
                            cout<c"Doctors are....."</pre>
                      class ViewAppointmentDetail: public hospitalsystem
{
```

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Project50 - Microsoft Visual Studio
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Process:
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    Source.cpp* ≠ X
      (Global Scope)
           class ViewAppointmentDetail: public hospitalsystem
              public:
              ViewAppointmentDetail()
Toolbox
              1
                 cout<<"Your Appointments with doctors are; "<<endl;
              }
          };
          int main()
          -{
              Login w1;
              Register obj2;
           ViewDoctorDetail obj3;
           ViewAppointmentDetail obj4;
       return 0; }
```

<u>staff:</u>

```
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FILE EDIT VIEW PROJECT BUILD DEBUG TEAM SQL TOOLS TEST ARCHITECTURE ANALYZE WINDOW HELP

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                        (Global Scope)
#include<iostream>
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                                 using namespace std;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ⊟class Staff
{
                                };
                             □class GuidePatients: public Staff
                               };
                            ⊟class HelpDoctor: public Staff
                          };
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Solution... Team Exp... Class View
                       ⊟int main()
                            GuidePatients obj1;
HelpDoctor obj2;
ControlPatients obj3;
return 0;
              100 % + 4
```

Patient:

```
Quick Launch (Ctrl+Q)
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FILE EDIT VIEW PROJECT BUILD DEBUG TEAM SQL TOOLS TEST ARCHITECTURE ANALYZE WINDOW HELP
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      (Global Scope)
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      );
class Login_OR_Register: public Patient
                                                                                                                                                                    > ≡ E
     class Book_Appointment: public Patient
     class Visit_Hospital: public Patient
     };
                                                                                                                                                                   Solution...
     };
                                                                                                                                                                   Properties :
     -class Perfrom Tests: public Patient
                                                                                                                                                                   □ Z↓ &
     >:
      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;
ceturn_Ar
```

Cashier:

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Project50 - Microsoft Visual Studio
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FILE EDIT VIEW PROJECT BUILD DEBUG TEAM SQL TOOLS TEST ARCHITECTURE ANALYZE WINDOW HELP

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  Cashier Cashier
                                                                                                                                            O O A O - ≠ A A A
                                                                                                                                            Search Solution Explorer (Ctrl+; 🔑 -
      using namespace std;
                                                                                                                                             Solution 'Project50' (1 project)
                                                                                                                                           ⊡class Cashier
                                                                                                                                                 b ++ Source.cpp
     ⊡class Prepare_Bills: public Cashier
     };
     ⊏class Take_Payment: public Cashier
    {
};
                                                                                                                                            Solution... Team Exp... Class View
                                                                                                                                            Properties • 🏗 🗙
     ⊟int main()
                                                                                                                                            n 2 5
     {
    Prepare_Bills obj1;
          Take_Payment obj2;
return 0;
```

Pharmacist:

```
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Source.cpp* + X

(Global Scope)

#include<:
using name
       #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:

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Project50 - Microsoft Visual Studio
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                            Process:
 Source.cpp* + X
(Global Scope)
    #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;
 100 % - 4
```