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Midterm Paired Task 1

Step 1.

Identify the Classes.

Hospital
Patients
Rooms

Step 2. Identify attributes and methods.

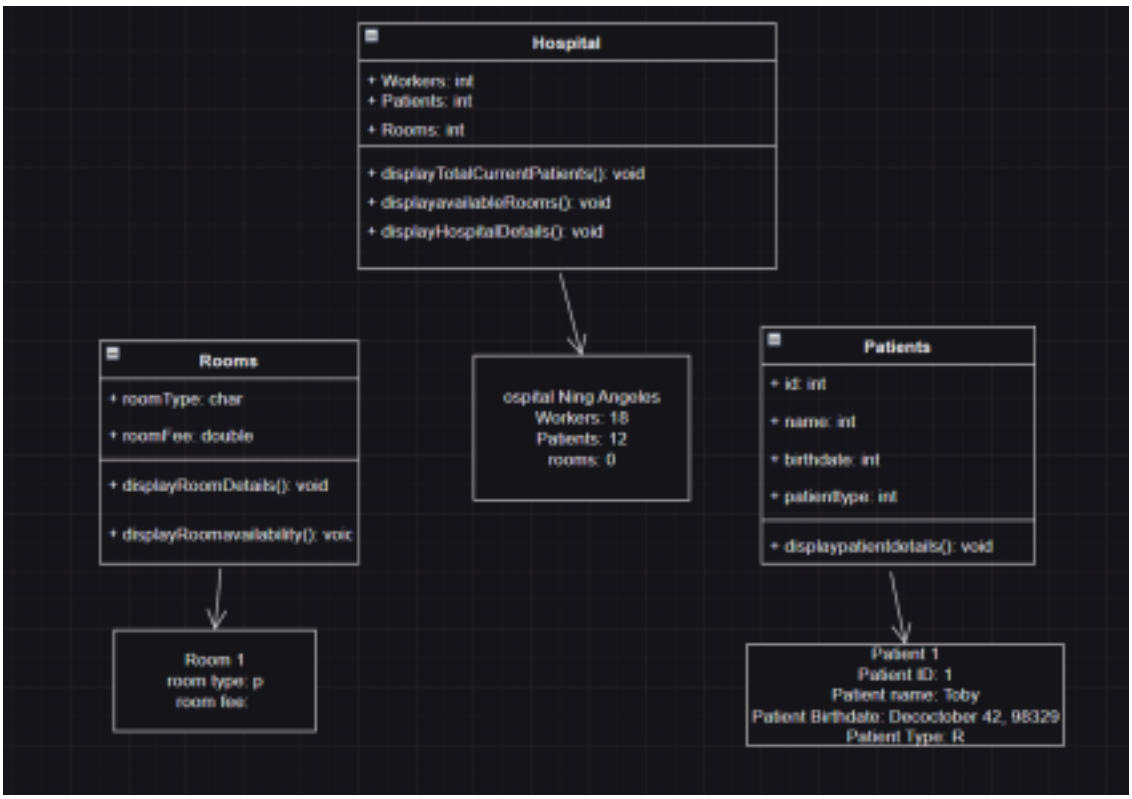
1. **Following the OO workflow as discussed in class,** you are task to design the OO Model of the given problem (use draw.io) of the scenario below:

   Problem Statement. Tiny Hospital keeps information on **patients** and **hospital rooms**. The system assigns each patient a patient ID number. In addition, the patient's name and date of birth are recorded. Some patients are resident patients (they spend at least one night in the hospital) and others are outpatients (they are treated and released). Resident patients are assigned to a room. Each room is identified by a room number. The **Tiny hospital system** also stores the room type (private or semi-private) and room fee. Overtime, each room will have many patients who stay in it. Each resident patient will stay in only one room. The hospital system has features that can view patient information and view whether a room is occupied or not. Both patient and room entities must have features that allows adding, updating and searching of records.

I just read this and hoped I made a pretty good interpretation.

Step 3.

Class Diagram.



Step 4.

Implement in code.

Hospital

```
class Hospital {
    int workers;
    int patients;
    int rooms;

    public void displayHospitalDetails() {
        System.out.println("There are " + workers + " workers in the Hospital");
        System.out.println("There are " + patients + " patients in the Hospital")
        System.out.println("There are " + rooms + " rooms in the Hospital");
    }

    public void displayNumberOfPatients() {
        System.out.println("bla bla bla 6 patients currently confined");
    }

    public void displayAvailableRooms() {
        System.out.println("bla bla bla 5 free rooms");
    }
}
```

Patient

```java
class Patient {
    int id;
    String name;
    String birthdate;
    char patientType;

    public void displayPatientDetails() {
        System.out.println("Patient ID: " + id);
        System.out.println("Patient Name: " + name);
        System.out.println("Patient Birthdate: " + birthdate);
        System.out.println("Patient Type(R / O): " + patientType);
    }
}
```

Room

```java
class Room {
    char roomType;
    double roomFee;

    public void displayRoomDetails() {
        System.out.println("Room Type (P / S): " + roomType);
        System.out.println("Room Fee: " + roomFee);
    }

    public void displayRoomAvailability() {
        System.out.println("bla bla bla room is available");
    }

}
```

Step 5.
Check if it works.

```java
public class Main
{
    public static void main(String[] args) {
        Hospital ospitalNingAngeles = new Hospital();
        ospitalNingAngeles.workers = 18;
        ospitalNingAngeles.patients = 82;
        ospitalNingAngeles.patients = 12;
        ospitalNingAngeles.displayNumberOfPatients();
        ospitalNingAngeles.displayHospitalDetails();

        System.out.println("\n---------------------\n");

        Patient patient1 = new Patient();
        patient1.id = 001;
        patient1.name = "Toby";
        patient1.birthdate = "Decaoctober 42, 98329";
        patient1.patientType = 'R';
        patient1.displayPatientDetails();

        System.out.println("\n---------------------\n");

        Room room1 = new Room();
        room1.roomType = 'P';
        room1.roomFee = 2109.54;
        room1.displayRoomDetails();

    }
}
```

```
bla bla bla 6 patients currently confined
There are 18 workers in the Hospital
There are 12 patients in the Hospital
There are 0 rooms in the Hospital

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Patient ID: 1
Patient Name: Toby
Patient Birthdate: Decaoctober 42, 98329
Patient Type(R / O): R

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Room Type (P / S): P
Room Fee: 2109.54
```