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C204

700P Paired Task 1. Object Oriented Analysis

Step 1:

Patient, Room, Hospital System

Step 2:

Patient

Attributes

- patientID
- patientName
- dateOfBirth
- patientStatus

Methods

- viewPatientInfo()
- updatePatientInfo()

Hospital System

Attributes

- listOfPatients
- listOfRooms

Methods

- addPatient()
- updatePatient()
- searchPatient()
- addRoom()
- searchRoom()
- storesRoomFee()
- storesRoomType()

Room

Attribute

- roomNumber()

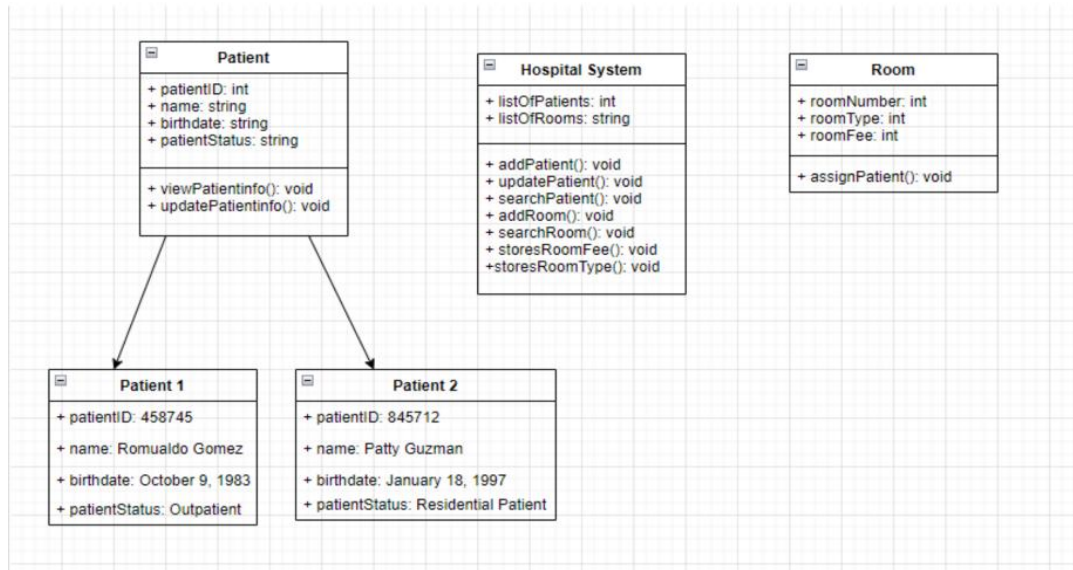
- roomType

- roomFee

Method

- assignPatient()

Step 3:



Step 4:

```

class Patient {
    int id;
    String name;
    String dateOfBirth;
    String type;
    Room room;

    public Patient(int id, String name, String dob, String type) {

        this.id = id;
        this.name = name;
        this.dateOfBirth = dob;
        this.type = type;
    }

    void viewInfo() {
        System.out.println(id + " - " + name + " (" + type + ")");
    }
}

class Room {
    int roomNumber;
    String roomType;
    double fee;
    boolean isOccupied = false;

    public Room(int num, String type, double fee) {
        this.roomNumber = num;
        this.roomType = type;
        this.fee = fee;
    }

    void assignPatient(Patient p) {
        if (!isOccupied) {
            isOccupied = true;
        }
    }
}

```

```

p.room = this;
System.out.println("Assigned " + p.name + " to room " + roomNumber);
}

}

void freeRoom() {
isOccupied = false;
}
}

class HospitalSystem {
arrayList<Patient> patients = new arrayList<>();
arrayList<Room> rooms = new arrayList<>();

void addPatient(Patient p) { patients.add(p); }
void addRoom(Room r) { rooms.add(r); }

Patient searchPatient(int id) {
for (Patient p : patients) if (p.id == id) return p;
return null;
}

Room searchRoom(int num) {
for (Room r : rooms) if (r.roomNumber == num) return r;
return null;
}
}

public class Main {
public static void main(String[] args) {
HospitalSystem hs = new HospitalSystem();

Room r1 = new Room(101, "Private", 1500);
Patient p1 = new Patient(1, "Juan Dela Cruz", "1990-01-01", "Resident");

hs.addRoom(r1);
hs.addPatient(p1);

r1.assignPatient(p1);
p1.viewInfo();
}
}

```