Mechure, Liann S. C204 Reyes, Maurey Shane M.

Midterm Paired Task #1

Object Oriented Analysis and Design

Step 1: IDENTIFY the Objects

+ Patient

+ Hospital Room

+ Tiny Hospital System

Step 2: IDENTIFY properties and behaviors/methods

Patient:

- patientId
- patientName
- dateofBirth
- patientStatus (resident or outpatient)

(Method)

+ addPatient
+ updatePatient
+ searchPatient

Hospital Room:

+ roomNum
+ roomType
+ roomFee
+ isOccupied

(Method)

+ addRoom

+ updateRoom

+ searchRoom

+ checkVacancy

Tiny Hospital System:

- patient (access to Patient)

- room (access to Hospital Room) **(Method)**

+ addPatient

+ addRoom

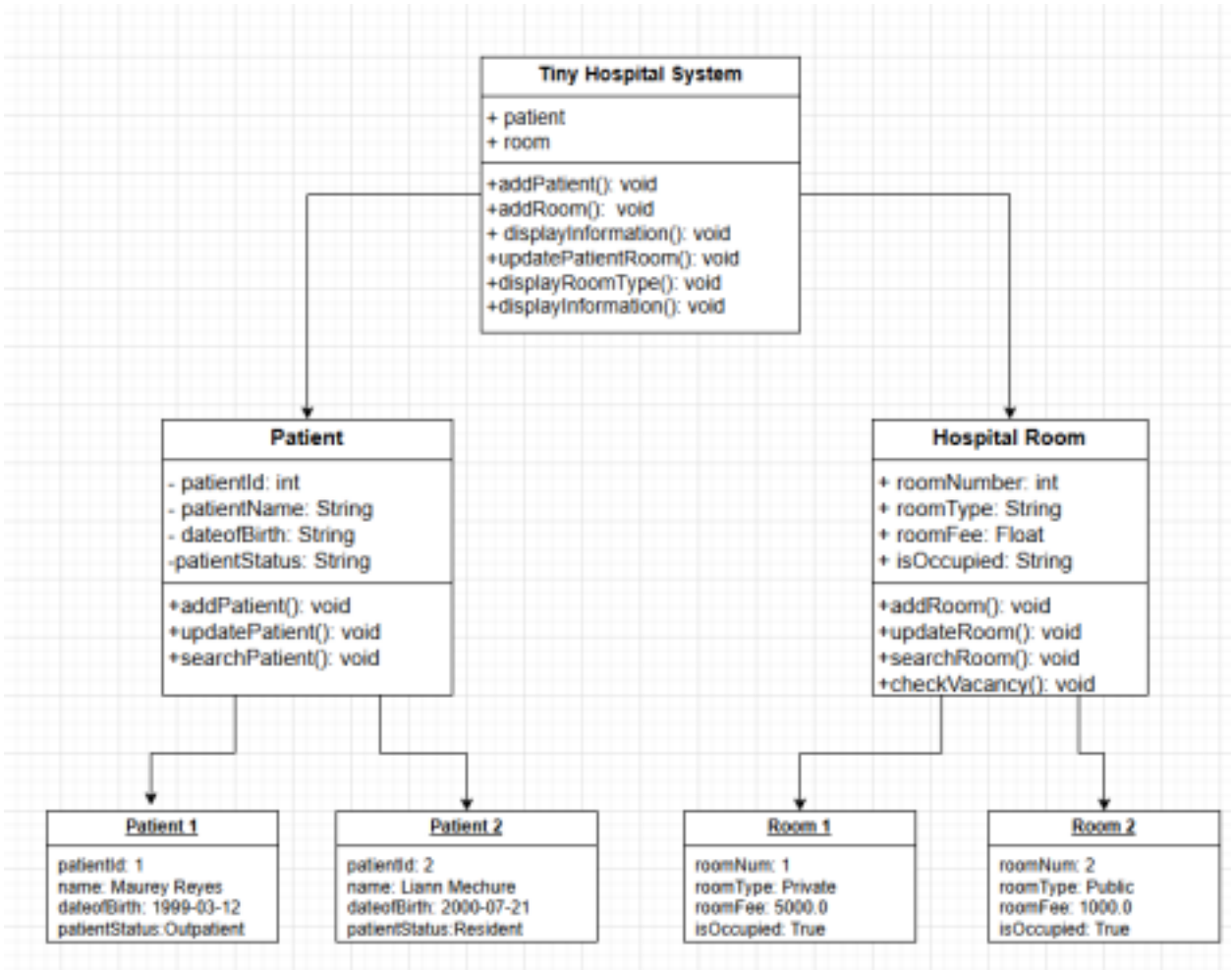
+ assignPatientRoom

+ updatePatientRoom

+ displayRoomType

+ displayInformation

Step 3: Design the MODEL



Step 4: Implement the class using Java

code public class TinyHospitalSystem {

```
// Object: Patient
public static class Patient {
int patientId;
String patientName;
String dateOfBirth;
String patientStatus;

public void addPatient() {
```

```
System.out.printf("Adding patient...\n");  }
public void updatePatient() {
System.out.printf("Updating patient...\n");  }
public void searchPatient() {
System.out.printf("Searching patient...\n");  }
}

// Object: Hospital Room
public static class HospitalRoom {
int roomNum;
String roomType;
double roomFee;
boolean isOccupied;
public void addRoom() {
System.out.printf("Adding room...\n");  }
public void updateRoom() {
System.out.printf("Updating room...\n");  }
public void searchRoom() {
System.out.printf("Searching room...\n");  }
public void checkVacancy() {
System.out.printf("Checking vacancy...\n");  }
}

// Main System
Patient patient1 = new Patient();
Patient patient2 = new Patient();
HospitalRoom room1 = new HospitalRoom();
```

```
HospitalRoom room2 = new HospitalRoom();

 public void assignPatientRoom() {
 System.out.printf("Assigning patient to room...\n");  }

 public void displayInformation() {
 System.out.printf("=== Hospital Information ===\n");  //

Patient 1: Maurey

 System.out.printf("Patient ID: %d\n", patient1.patientId);
 System.out.printf("Name: %s\n", patient1.patientName);
 System.out.printf("Date of Birth: %s\n", patient1.dateOfBirth);
 System.out.printf("Status: %s\n", patient1.patientStatus);
 System.out.printf("Assigned Room: %d (%s)\n", room1.roomNum,  room1.roomType);
 System.out.printf("Room Fee: %f \n", room1.roomFee);
 System.out.printf("Check Vacancy: %b \n\n", room1.isOccupied);

 // Patient 2: Liann
 System.out.printf("Patient ID: %d\n", patient2.patientId);
 System.out.printf("Name: %s\n", patient2.patientName);
 System.out.printf("Date of Birth: %s\n", patient2.dateOfBirth);
 System.out.printf("Status: %s\n", patient2.patientStatus);
 System.out.printf("Assigned Room: %d (%s)\n", room2.roomNum,  room2.roomType);
 System.out.printf("Room Fee: %f \n", room2.roomFee);
 System.out.printf("Check Vacancy: %b \n", room2.isOccupied);  }
```

```
// Main: Tiny Hospital System
public static void main(String[] args) {
TinyHospitalSystem system = new TinyHospitalSystem();

// Patient 1
system.patient1.patientId = 1;
system.patient1.patientName = "Maurey Reyes";
system.patient1.dateOfBirth = "1999-03-12";
system.patient1.patientStatus = "Resident";
// Patient 2
system.patient2.patientId = 2;
system.patient2.patientName = "Liann Mechure";
system.patient2.dateOfBirth = "2000-07-21";
system.patient2.patientStatus = "Outpatient";

// Room 1
system.room1.roomNum = 101;
system.room1.roomType = "Private";
system.room1.roomFee = 5000.0;
system.room1.isOccupied = true;

// Room 2
system.room2.roomNum = 102;
system.room2.roomType = "Public";
system.room2.roomFee = 3000.0;
system.room2.isOccupied = true;
```

```
 // Assign patients to rooms
 system.assignPatientRoom();

 // Display all information
 system.displayInformation();
 }
}
```