

CSC 540 - Database Management Systems

Project Report 1 - Corrections

WolfHospital Management System

Sections Covered:

- 5. Application Program Interfaces
- 7. Local ER Diagrams
- 9. Local Relational Schemas

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The changes are highlighted in the document. The ER Diagram changes are shown in green.

5. Application Program Interfaces:

Information processing:

createStaff(name, age, gender, jobTitle, professionalTitle, department, phoneNo, address)
return staffID or NULL(error)

createPatient(SSN, name, DOB, gender, phoneNo, address, status)
return patientID or NULL(error)

createWard(capacity, charges)
return wardNO or NULL(error)

updateStaff (staffID, <attribute(s)>)
return success or failure (error)

- staffID and atleast one attribute(name, age, gender, jobTitle, professionalTitle, department, phoneNo, address) mandatory

updatePatient (patientID, <attribute(s)>)
return success or failure (error)

- patientID and atleast one attribute(SSN, name, DOB, gender, phoneNo, address, status) mandatory

updateWard(wardNO, <attribute(s)>)
return success or failure (error)

- wardNO and atleast one attribute(capacity, charges, staffID) mandatory

deleteStaff (staffID)
return success or failure (error)

deletePatient (patientID)
return success or failure (error)

deleteWard(wardNO)
return success or failure (error)

checkBedAvailability(wardNO/capacityType)
return bedNO or NULL (no bed available)

- Availability check can be done for ward or capacityType (1-bed, 2-bed, and 4-bed ward)
- If both are not provided, returns any available bed.

assignBed(wardNO, BID, patientID)

return success or failure

- wardNO, patientID, and bedNO are mandatory

reserveBed(wardNO,bedNO)

return success or failure

releaseBed(wardNO,bedNO)

return success or failure

Maintaining medical records for each patient:

createMedicalRecord(patientID, startDate, staffID)

return a MedicalRecordId or NULL (error)

updateMedicalRecord(MedicalRecordId, <attributes>)

return success or failure

- The attributes can be medications prescribed, tests, diagnosisResults, endDate

createCheckIn(bedNo, patientID, startDate, endDate)

returns success or failure

updateCheckIn(patientID, startDate, <attributes>)

returns success or failure

- Attributes can be endDate, bedNO

Maintaining billing accounts:

createBillingRecord(patientID,consultationFee,payeeSSN,billingAddress,paymentMethod,cardNumber,visitDate, needCheckIn)

returns billingRecordId or null (Error)

- needCheckIn is used to check for bed availability

updateBillingRecord(billingRecordId,<attribute1>,<attribute2>)

returns success or failure

- attribute1 can be consultationFee, payeeSSN, billingAddress, paymentMethod, cardNumber, visitDate, medicationPrescribed, testName
- if attribute1 is medicationPrescribed, testName, an attribute2 which is cost should be provided.

getMedicalRecordForPatient(patientID, startPeriod, endPeriod)

returns a list of medicalRecords or NULL (error)

- if startPeriod and endPeriod is null, entire record list is returned

Reports:

getMedicalRecordForPatient(patientID, startPeriod, endPeriod)

returns a list of medicalRecords or NULL (error)

- if startPeriod and endPeriod is null, entire record list is returned

getBedUsage()

returns a list of beds or NULL (error)

- the Bed Object would have the associated Ward number and AvailabilityStatus.

getPatientCount(isUnique)

returns count or 0 (error)

- isUnique is optional, when set to true returns distinct count of patients visited per month
- The count would be returned based on Billing Record visit date.

getWardUsage()

returns percentage or 0 (error)

getPatientListFor(staffID)

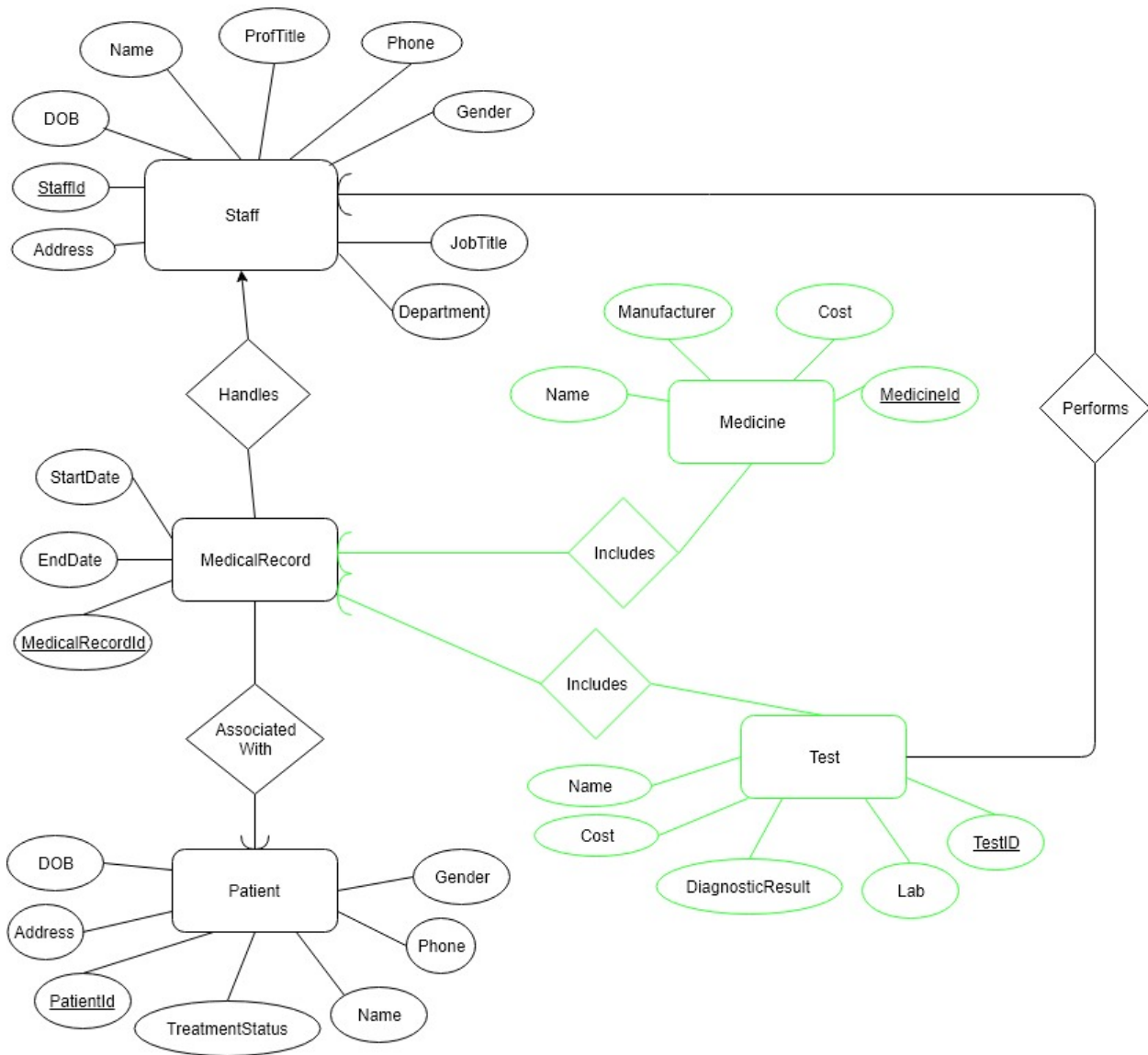
returns List of Patients or NULL (error)

getStaffList()

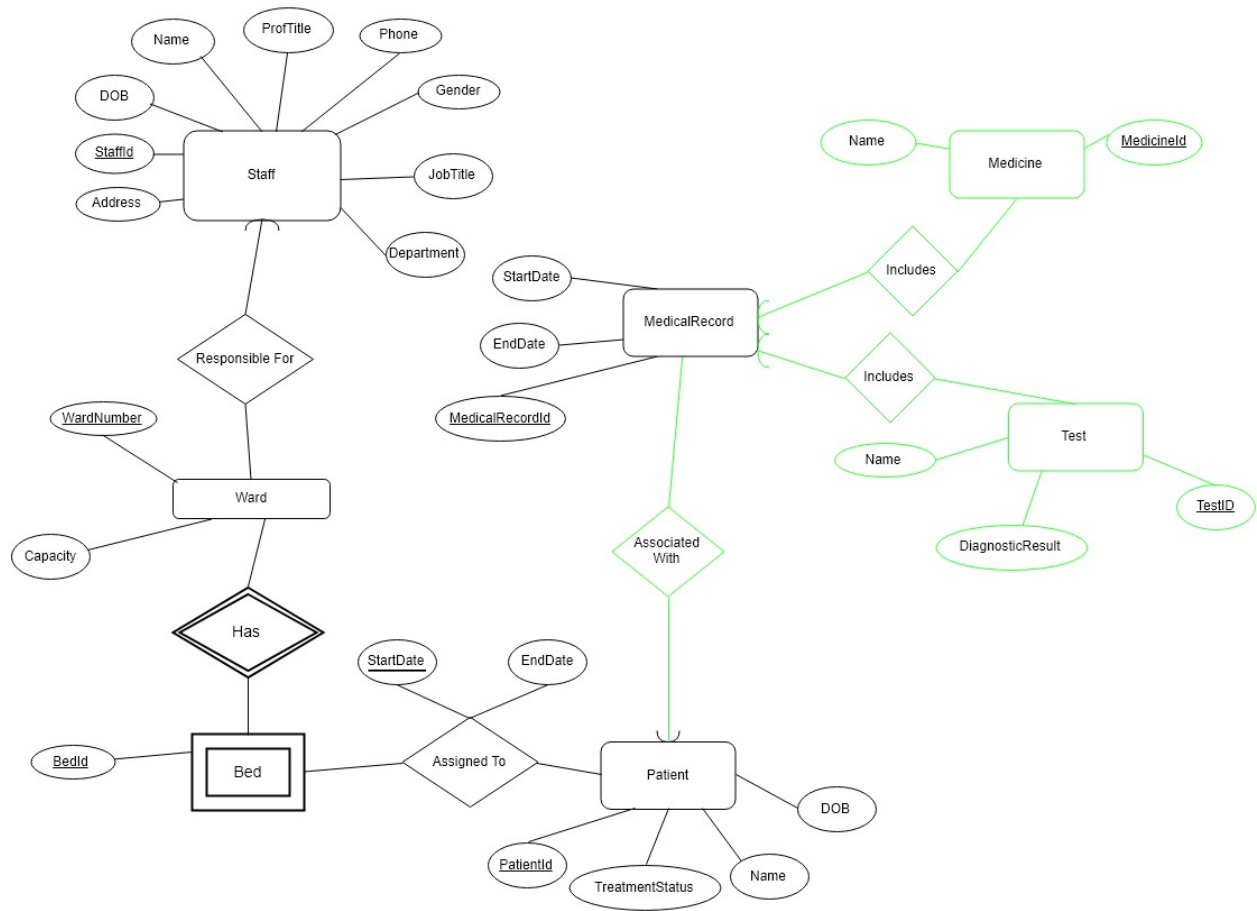
returns List of Staff grouped by roles or NULL(error)

7. Local ER Diagrams:

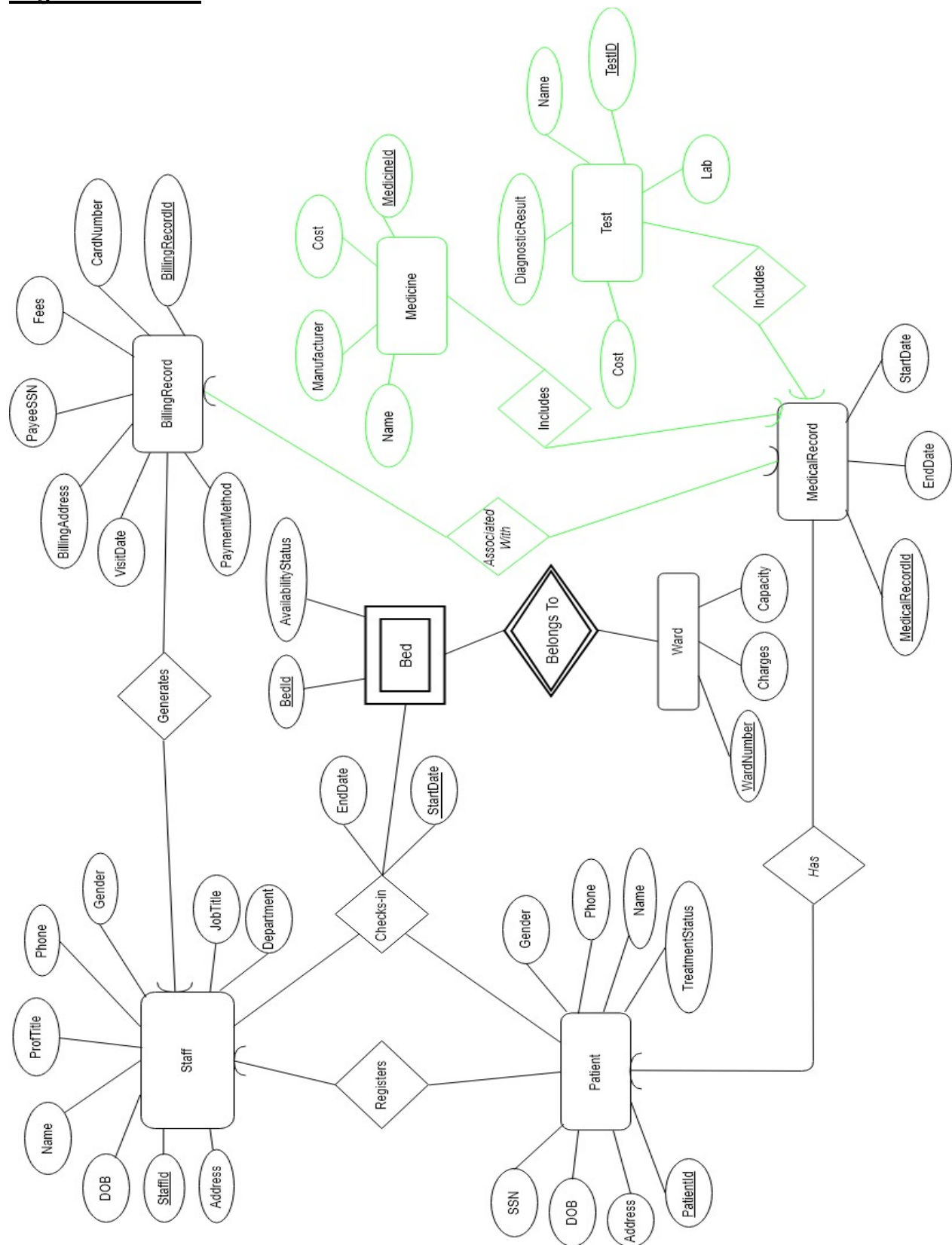
Doctor



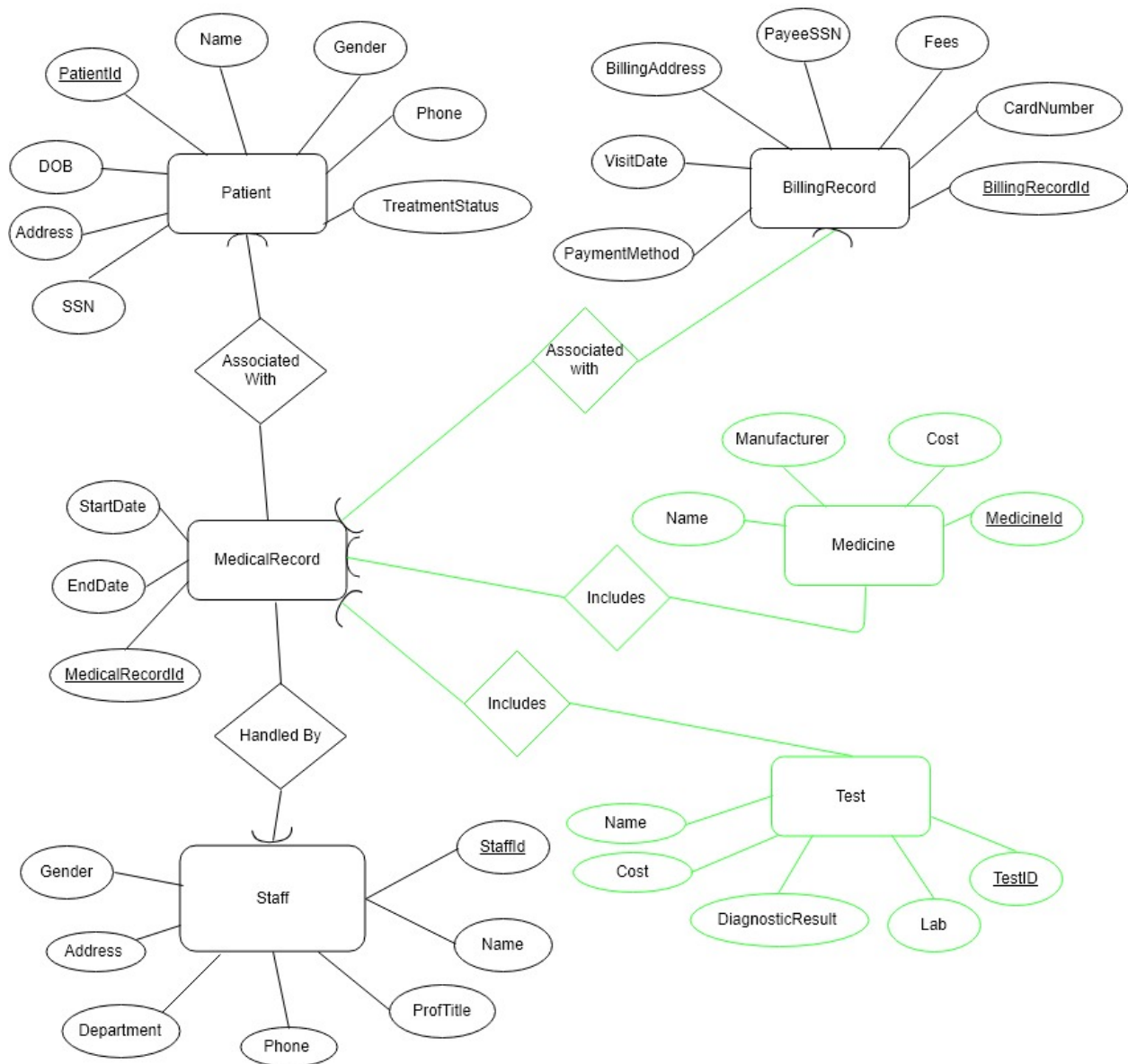
Nurse



Registration Staff:



Patient



9. Local Relational Schemas:

Doctor:

Staff(StaffId, Address, DOB, Name, ProfTitle, Phone, Gender, JobTitle, Department)

Patient(PatientId, DOB, Address, Name, Phone, Gender, TreatmentStatus)

MedicalRecord(MedicalRecordId, StaffId, PatientId, StartDate, EndDate)

Medicine(MedicineId, Name, Cost, Manufacturer, MedicalRecordId)

Test(TestId, Name, Cost, DiagnosisResult, Lab, StaffId, MedicalRecordId)

Nurse:

Staff(StaffId, Address, DOB, Name, ProfTitle, Phone, Gender, JobTitle, Department)

Patient(PatientId, DOB, Name, TreatmentStatus)

Ward(WardNumber, Capacity, StaffId)

Bed(BedId, WardNumber)

AssignedTo(BedId, WardNumber, PatientId, StartDate, EndDate)

MedicalRecord(MedicalRecordId, PatientId, StartDate, EndDate)

Medicine(MedicineId, Name, MedicalRecordId)

Test(TestId, Name, DiagnosisResult, MedicalRecordId)

Registration/Billing Staff:

Staff(StaffId, Address, DOB, Name, ProfTitle, Phone, Gender, JobTitle, Department)

Patient(PatientId, SSN, DOB, Address, Name, Phone, Gender, TreatmentStatus, StaffId)

MedicalRecord(MedicalRecordId, PatientId, StartDate, EndDate)

BillingRecord(BillingRecordId, StaffId, MedicalRecordId, PaymentMethod, CardNumber, Fees, PayeeSSN, VisitDate, BillingAddress)

Medicine(MedicineId, Name, Cost, Manufacturer, MedicalRecordId)

Test(TestId, Name, Cost, DiagnosisResult, Lab, StaffId, MedicalRecordId)

Ward(WardNumber, Charges, Capacity)

Bed(BedId, WardNumber, AvailabilityStatus)

ChecksIn(BedId, WardNumber, PatientId, StartDate, EndDate, StaffId)

Patient:

Staff(StaffId, Address, Name, ProfTitle, Phone, Gender, Department)

Patient(PatientId, SSN, DOB, Address, Name, Phone, Gender, TreatmentStatus)

MedicalRecord(MedicalRecordId, PatientId, StartDate, EndDate, StaffId)

BillingRecord(BillingRecordId, MedicalRecordId, CardNumber, Fees, PayeeSSN,
PaymentMethod, VisitDate, BillingAddress)

Medicine(MedicineId, Name, Cost, Manufacturer, MedicalRecordId)

Test(TestId, Name, Cost, DiagnosisResult, Lab, MedicalRecordId)