# CHRIST (Deemed to be University), Bangalore

**Name: Nitish Churiwala**

**Register no: 2447261**

**Class: 1MCA B**

## Domain:

Hospital Website

## Entities:

- Patient
- Doctor
- Appointment
- Prescription
- MedicalRecord
- Nurse
- Department
- LabTest
- Billing
- Room

## Attributes and Data Types:

### 1. Patient

- PatientID**: Integer (Primary Key, unique identifier for the patient)**
- FirstName**: String (Patient's first name)**
- LastName**: String (Patient's last name)**
- DateOfBirth**: Date (Patient's date of birth)**
- Gender**: String (Patient's gender)**
- Address**: String (Patient's residential address)**

- PhoneNumber**: String (Patient's contact number)**
- Email**: String (Patient's email address)**
- InsuranceID**: String (Insurance policy number of the patient)**
- EmergencyContact**: String (Emergency contact person's details)**

## 2. Doctor

- DoctorID**: Integer (Primary Key, unique identifier for the doctor)**
- FirstName**: String (Doctor's first name)**
- LastName**: String (Doctor's last name)**
- Specialization**: String (Medical specialty of the doctor)**
- PhoneNumber**: String (Doctor's contact number)**
- Email**: String (Doctor's email address)**
- LicenseNumber**: String (Medical license number)**
- DateOfJoining**: Date (Date the doctor joined the hospital)**
- Department**: String (Department the doctor is assigned to)**
- ConsultationFee**: Decimal (Doctor's consultation fee)**
- Address**: String (Doctor's residential address)**

## 3. Appointment

- AppointmentID**: Integer (Primary Key, unique identifier for the appointment)**
- PatientID**: Integer (Foreign Key, refers to PatientID in Patient table)**
- DoctorID**: Integer (Foreign Key, refers to DoctorID in Doctor table)**
- AppointmentDate**: DateTime (Date and time of the appointment)**
- Reason**: String (Reason for the appointment)**
- Status**: String (Appointment status: Scheduled, Completed, Cancelled)**
- PrescriptionID**: Integer (Foreign Key, refers to PrescriptionID in Prescription table)**
- Diagnosis**: String (Diagnosis made during the appointment)**
- Notes**: String (Additional notes about the appointment)**
- FollowUpDate**: DateTime (Scheduled date and time for a follow-up appointment)**

## 4. Prescription

- PrescriptionID**: Integer (Primary Key, unique identifier for the prescription)**
- AppointmentID**: Integer (Foreign Key, refers to AppointmentID in Appointment table)**
- PatientID**: Integer (Foreign Key, refers to PatientID in Patient table)**
- DoctorID**: Integer (Foreign Key, refers to DoctorID in Doctor table)**
- PrescriptionDate**: DateTime (Date and time the prescription was issued)**
- Medication**: String (Medications prescribed to the patient)**
- Dosage**: String (Dosage instructions for the medication)**
- Duration**: String (Duration for taking the medication)**
- Notes**: String (Additional instructions or notes)**
- PharmacyID**: Integer (Foreign Key, refers to PharmacyID in Pharmacy table)**

## 5. MedicalRecord

- RecordID**: Integer (Primary Key, unique identifier for the medical record)**
- PatientID**: Integer (Foreign Key, refers to PatientID in Patient table)**
- DoctorID**: Integer (Foreign Key, refers to DoctorID in Doctor table)**
- RecordDate**: DateTime (Date and time the record was created)**
- Diagnosis**: String (Details of the diagnosis)**
- Treatment**: String (Details of the treatment provided)**
- Notes**: String (Additional notes about the record)**
- LabResults**: String (Lab results related to the record)**
- FollowUpDate**: DateTime (Scheduled date and time for a follow-up)**
- RecordType**: String (Type of medical record: Visit, Surgery, etc.)**

## 6. Nurse

- NurseID**: Integer (Primary Key, unique identifier for the nurse)**
- FirstName**: String (Nurse's first name)**
- LastName**: String (Nurse's last name)**
- Department**: String (Department the nurse is assigned to)**
- PhoneNumber**: String (Nurse's contact number)**
- Email**: String (Nurse's email address)**
- LicenseNumber**: String (Nursing license number)**
- DateOfJoining**: Date (Date the nurse joined the hospital)**

- Shift: **String (Nurse's shift timing)**
- Address: **String (Nurse's residential address)**

## 7. Department

- DepartmentID: **Integer (Primary Key, unique identifier for the department)**
- DepartmentName: **String (Name of the department)**
- HeadOfDepartment: **String (Name of the head of the department)**
- PhoneNumber: **String (Contact number of the department)**
- Email: **String (Email address of the department)**
- Location: **String (Location of the department within the hospital)**
- NumberOfStaff: **Integer (Number of staff in the department)**
- ServicesOffered: **String (List of services provided by the department)**
- OperatingHours: **String (Operating hours of the department)**
- Notes: **String (Additional notes about the department)**

## 8. LabTest

- TestID: **Integer (Primary Key, unique identifier for the lab test)**
- TestName: **String (Name of the lab test)**
- Description: **String (Description of the lab test)**
- PatientID: **Integer (Foreign Key, refers to PatientID in Patient table)**
- DoctorID: **Integer (Foreign Key, refers to DoctorID in Doctor table)**
- TestDate: **DateTime (Date and time the test was conducted)**
- Results: **String (Results of the lab test)**
- Notes: **String (Additional notes about the test)**
- LabTechnicianID: **Integer (Foreign Key, refers to TechnicianID in LabTechnician table)**
- Cost: **Decimal (Cost of the lab test)**

## 9. Billing

- BillID: **Integer (Primary Key, unique identifier for the bill)**
- PatientID: **Integer (Foreign Key, refers to PatientID in Patient table)**
- AppointmentID: **Integer (Foreign Key, refers to AppointmentID in Appointment table)**
- BillingDate: **DateTime (Date and time the bill was generated)**
- TotalAmount: **Decimal (Total amount of the bill)**

- InsuranceCovered**: Decimal (Amount covered by insurance)**
- PatientPayable**: Decimal (Amount payable by the patient)**
- PaymentStatus**: String (Payment status: Paid, Unpaid, Pending)**
- PaymentMethod**: String (Method of payment: Cash, Card, Online)**
- Notes**: String (Additional notes about the bill)**

## 10. Room

- RoomID**: Integer (Primary Key, unique identifier for the room)**
- RoomNumber**: String (Number of the room)**
- RoomType**: String (Type of room: Private, Semi-Private, General)**
- Capacity**: Integer (Capacity of the room)**
- OccupancyStatus**: String (Occupancy status: Occupied, Available)**
- PatientID**: Integer (Foreign Key, refers to PatientID in Patient table, if occupied)**
- RatePerDay**: Decimal (Rate per day for the room)**
- Facilities**: String (Facilities available in the room)**
- AssignedNurseID**: Integer (Foreign Key, refers to NurseID in Nurse table)**
- Notes**: String (Additional notes about the room)**

# Entity Relationship Diagram

## Prescription

| | |
|---|---|
| PK | PrescriptionID: Integer |
| FK | AppointmentID: Integer |
| FK | PatientID: Integer |
| FK | DoctorID: Integer |
| FK | PharmacyID: Intege |
| | PrescriptionDate: DateTime |
| | Medication: String |
| | Dosage: String |
| | Duration: String |
| | Notes: String |

## Appointment

| | |
|---|---|
| PK | AppointmentID: Integer |
| | PatientID: Integer |
| | DoctorID: Integer |
| | AppointmentDate: DateTime |
| | Reason: String |
| | Status: String |
| | PrescriptionID: Integer |
| | Diagnosis: String |
| | Notes: String |
| | FollowUpDate: DateTime |

## MedicalRecord

| | |
|---|---|
| PK | RecordID: Integer |
| FK | PatientID: Integer |
| FK | DoctorID: Integer |
| | RecordDate: DateTime |
| | Diagnosis: String |
| | Treatment: String |
| | Notes: String |
| | LabResults: String |
| | FollowUpDate: DateTime |
| | RecordType: String |

## Patient

| | |
|---|---|
| PK | PatientID: Integer |
| | FirstName: String |
| | LastName: String |
| | DateOfBirth: Date |
| | Gender: String |
| | Address: String |
| | PhoneNumber: String |
| | Email: String |
| | InsuranceID: String |
| | EmergencyContact: String |

## Doctor

| | |
|---|---|
| PK | DoctorID: Integer |
| | FirstName: String |
| | LastName: String |
| | Specialization: String |
| | PhoneNumber: String |
| | Email: String |
| | LicenseNumber: String |
| | DateOfJoining: Date |
| | Department: String |
| | ConsultationFee: Double |
| | Address: String |

## Room

| | |
|---|---|
| PK | RoomID: Integer |
| FK | PatientID: Integer |
| FK | AssignedNurseID: Integer |
| | RoomNumber: String |
| | RoomType: String |
| | Capacity: Integer |
| | OccupancyStatus: String |
| | RatePerDay: Double |
| | Facilities: String |
| | Notes: String |

## LabTest

| | |
|---|---|
| PK | TestID: Integer |
| FK | PatientID: Integer |
| FK | DoctorID: Integer |
| FK | LabTechnicianID: Integer |
| | TestName: String |
| | Description: String |
| | TestDate: DateTime |
| | Results: String |
| | Notes: String |
| | Cost:Double |

## Billing

| | |
|---|---|
| PK | BillID: Integer |
| FK | PatientID: Integer |
| FK | AppointmentID: Integer |
| | BillingDate: DateTime |
| | TotalAmount: Double |
| | InsuranceCovered: Double |
| | PatientPayable: Double |
| | PaymentStatus: String |
| | PaymentMethod: String |
| | Notes: String |

## Nurse

| | |
|---|---|
| PK | NurseID: Integer |
| | FirstName: String |
| | LastName: String |
| | Department: String |
| | PhoneNumber: String |
| | Email: String |
| | LicenseNumber: String |
| | DateOfJoining: Date |
| | Shift: String |
| | Address: String |

## Department

| | |
|---|---|
| PK | DepartmentID: Integer |
| | DepartmentName: String |
| | HeadOfDepartment: String |
| | PhoneNumber: String |
| | Email: String |
| | Location: String |
| | NumberOfStaff: Integer |
| | ServicesOffered: String |
| | OperatingHours: String |
| | Notes: String |