Entity of System

1. Patient
- Patient_ID: Unique identifier for each patient.
- Name: Full name of the patient.
- Date_of_Birth: Patient's date of birth.
- Gender: Patient's gender.
- Address: Residential address of the patient.
- Phone: Contact phone number of the patient.
- Email: Email address of the patient.
- Medical_History: Summary or reference to the patient's medical history.

2. Doctor
- Doctor_ID: Unique identifier for each doctor.
- Name: Full name of the doctor.
- Specialization: Medical field or area of expertise.
- Phone: Contact phone number of the doctor.
- Email: Email address of the doctor.
- Department_ID: Identifier linking the doctor to a specific department.

3. Nurse
- Nurse_ID: Unique identifier for each nurse.
- Name: Full name of the nurse.
- Phone: Contact phone number of the nurse.
- Email: Email address of the nurse.
- Department_ID: Identifier linking the nurse to a specific department.

4. Department
- Department_ID: Unique identifier for each department.
- Name: Name of the department (e.g., Cardiology, Pediatrics).
- Location: Physical location of the department within the hospital.
- Phone: Contact phone number for the department.

5. Appointment
- Appointment_ID: Unique identifier for each appointment.
- Date: Date of the appointment.
- Time: Time of the appointment.
- Patient_ID: Identifier linking the appointment to a specific patient.
- Doctor_ID: Identifier linking the appointment to a specific doctor.
- Reason: Brief description of the reason for the appointment.

6. Medical_Record
- Record_ID: Unique identifier for each medical record.
- Patient_ID: Identifier linking the medical record to a specific patient.
- Doctor_ID: Identifier linking the medical record to the attending doctor.
- Diagnosis: Diagnosis provided by the doctor.
- Treatment: Details of the treatment administered or recommended.
- Date: Date the medical record was created.
- Notes: Additional notes or observations by the doctor.

7. Treatment
- Treatment_ID: Unique identifier for each treatment.
- Name: Name or title of the treatment.
- Description: Detailed description of the treatment.

- Cost: Cost associated with the treatment.

8. Room

- Room_ID: Unique identifier for each room.
- Room_Number: Room number within the hospital.
- Department_ID: Identifier linking the room to a specific department.
- Capacity: Number of patients the room can accommodate.
- Type: Type of room (e.g., ICU, General Ward, Private Room).

9. Admission

- Admission_ID: Unique identifier for each admission record.
- Patient_ID: Identifier linking the admission to a specific patient.
- Room_ID: Identifier linking the admission to a specific room.
- Admission_Date: Date the patient was admitted.
- Discharge_Date: Date the patient was discharged.

10. Pharmacy

- Pharmacy_ID: Unique identifier for each pharmacy.
- Name: Name of the pharmacy.
- Location: Physical location of the pharmacy within the hospital.
- Phone: Contact phone number for the pharmacy.

11. Prescription

- Prescription_ID: Unique identifier for each prescription.
- Patient_ID: Identifier linking the prescription to a specific patient.
- Doctor_ID: Identifier linking the prescription to the issuing doctor.
- Date: Date the prescription was issued.
- Notes: Additional instructions or notes provided by the doctor.

12. Medication

- Medication_ID: Unique identifier for each medication.
- Name: Name of the medication.
- Description: Description of the medication, including its purpose and usage.
- Dosage: Recommended dosage for the medication.
- Cost: Cost of the medication.

13. Billing

- Billing_ID: Unique identifier for each billing record.
- Patient_ID: Identifier linking the billing to a specific patient.
- Total_Amount: Total amount to be paid by the patient.
- Payment_Status: Status of the payment (e.g., Paid, Unpaid, Partially Paid).
- Date: Date the bill was generated.
- Payment_Method: Method used for payment (e.g., Credit Card, Cash, Insurance).

14. Bed

- Bed_ID INT PRIMARY KEY IDENTITY(1,1),
- Room_ID INT,
- Bed_Number NVARCHAR(50), :Unique identifier for each bed within a room Is_Occupied BIT NOT NULL DEFAULT 0, -- 0 = Available, 1 = Occupied
- FOREIGN KEY (Room_ID) REFERENCES Room(Room_ID)

15. Patient_Queue

- Queue_ID INT PRIMARY KEY IDENTITY(1,1),
- Department_ID INT,
- Patient_ID INT,
- Queue_Number INT,

- Status NVARCHAR(50), -- e.g., 'Waiting', 'In Progress', 'Completed'
- Arrival_Time DATETIME,
- Estimated_Start_Time DATETIME,
- FOREIGN KEY (Department_ID) REFERENCES Department(Department_ID),
- FOREIGN KEY (Patient_ID) REFERENCES Patient(Patient_ID)

16. Treatment_Log

- Treatment_ID INT PRIMARY KEY IDENTITY(1,1),
- Department_ID INT,
- Patient_ID INT,
- Treatment_Type NVARCHAR(100),
- Treatment_Date DATETIME,
- FOREIGN KEY (Department_ID) REFERENCES Department(Department_ID),
- FOREIGN KEY (Patient_ID) REFERENCES Patient(Patient_ID)

Table check list

~~Admission~~
~~Appointment~~
~~Billing~~
~~Department~~
- Emergency Department (ED)
- Surgical Department
- Internal Medicine
- Pediatrics
- Obstetrics and Gynecology (OB/GYN)
- Cardiology
- Oncology
- Radiology
- Pathology
- Pharmacy
- Nursing
- Anesthesiology
- Orthopedics
- Pulmonology
- Neurology
- Urology
- Dietary and Nutrition
- Physical Therapy and Rehabilitation
- Administrative and Support Services
- Infectious Disease

~~Medical_record~~
~~Medication~~
~~Nurse~~
~~Patient~~
~~Pharmacy~~
~~Prescription~~
~~Prescription_medication~~
~~Room~~

~~Treatment~~
~~Bed~~
Patient_Queue
Treatment_Log

Recode list of Patient

1. Basic Information

- •Full Name: Patient's first name, middle name (if applicable), and last name.
- •Date of Birth: To determine age and age-related care needs.
- •Gender: For appropriate treatment and data categorization.
- •Patient ID: A unique identifier assigned to each patient.

2. Contact Information

- •Address: Residential address including city, state, and ZIP code.
- •Phone Number: Primary and secondary contact numbers.
- •Email Address: For communication and appointment reminders.

3. Emergency Contact

- •Name: Full name of the emergency contact person.
- •Relationship: Relationship to the patient.
- •Phone Number: Contact number of the emergency contact.

4. Insurance Information

- •Insurance Provider: Name of the insurance company.
- •Policy Number: Unique identifier for the insurance policy.
- •Group Number: Identifier for insurance group or plan.
- •Coverage Details: Information on covered services and benefits.

5. Medical History

- •Past Medical History: Previous illnesses, surgeries, and chronic conditions.
- •Family History: Medical conditions of immediate family members that may impact patient health.
- •Allergies: Any known allergies to medications, foods, or other substances.
- •Medications: Current medications, including dosage and frequency.
- •Immunizations: Record of vaccinations received.

6. Current Health Status

- •Chief Complaint: Reason for the current visit or admission.
- •Diagnosis: Clinical diagnoses made by healthcare professionals.
- •Symptoms: Current symptoms reported by the patient.
- •Vital Signs: Record of vital signs such as blood pressure, temperature, heart rate, and respiratory rate.

7. Treatment Information

- •Treatment Plan: Detailed plan for managing the patient's condition.
- •Medications Prescribed: List of medications prescribed, including dosage and duration.
- •Procedures and Surgeries: Details of any procedures or surgeries performed.
- •Follow-Up Appointments: Scheduled dates for follow-up visits and tests.

8. Appointment Details

- Date and Time: Scheduled date and time of appointments.
- Type of Appointment: Routine check-up, specialist consultation, emergency visit, etc.
- Attending Physician: Name of the physician or healthcare provider.

9. Billing and Financial Information

- Charges: Detailed list of services and treatments billed to the patient.
- Payments: Record of payments made by the patient or insurance.
- Outstanding Balance: Any remaining balance due.

10. Consent Forms

- Consent for Treatment: Documentation of patient consent for medical procedures and treatments.
- HIPAA Consent: Consent for sharing medical information as required by privacy laws.

11. Discharge Information

- Discharge Summary: Summary of the patient's stay, including treatments received and follow-up instructions.
- Discharge Medications: Medications prescribed upon discharge.
- Instructions: Home care instructions, activity restrictions, and follow-up care recommendations.

12. Patient Preferences

- Communication Preferences: Preferred method of contact (phone, email, mail).
- Advanced Directives: Any legal documents outlining patient's wishes for end-of-life care.

13. Laboratory and Diagnostic Results

- Test Results: Results from laboratory tests, imaging studies, and other diagnostic procedures.
- Interpretation: Clinical interpretation of test results by healthcare providers.

14. Notes and Observations

- Progress Notes: Daily or periodic notes by healthcare providers detailing patient progress.
- Observations: Any significant observations or changes in the patient's condition.

15. Admission and Discharge Information

- Admission Date and Time: When the patient was admitted.
- Discharge Date and Time: When the patient was discharged, if applicable.

16. Legal and Regulatory Information

- Legal Documents: Any relevant legal documents or court orders.
- Compliance Records: Records related to compliance with healthcare regulations and standards.

17. Health Records Access

- Access Logs: Records of who accessed the patient's information and when maintaining accurate and comprehensive records is essential for providing high-quality patient care, ensuring legal compliance, and facilitating efficient hospital operations.