**Identify the Entities & Attributes**

**1. Patient Entity**

* **Attributes**:
  + **PatientID** (Primary Key - PK)
  + **Name**
  + **DateOfBirth**
  + **ContactNumber**

**2. Doctor Entity**

* **Attributes**:
  + **DoctorID** (Primary Key - PK)
  + **Name**
  + **Specialization**
  + **ContactNumber**

**3. Appointment Entity**

* **Attributes**:
  + **AppointmentID** (Primary Key - PK)
  + **PatientID** (Foreign Key - FK)
  + **DoctorID** (Foreign Key - FK)
  + **ScheduledDateTime**

**4. Room Entity**

* **Attributes**:
  + **RoomNumber** (Primary Key - PK)
  + **Type** (e.g., private, semi-private, ward)
  + **AvailabilityStatus**

**5. Bill Entity**

* **Attributes**:
  + **BillID** (Primary Key - PK)
  + **PatientID** (Foreign Key - FK)
  + **TotalAmount**
  + **PaymentStatus**

**Define Relationships & Cardinality (Relationship Participation)**

1. **Patient - Appointment (1:M)**:
   * One **Patient** can have many **Appointments**.
   * A **Patient** can book multiple appointments, but each appointment belongs to one **Patient**.
   * **Cardinality**: **1:M** from **Patient** to **Appointment**.
2. **Doctor - Appointment (1:M)**:
   * One **Doctor** can have many **Appointments**.
   * A **Doctor** can handle multiple appointments with different patients, but each appointment involves only one **Doctor**.
   * **Cardinality**: **1:M** from **Doctor** to **Appointment**.
3. **Patient - Room (1:1)**:
   * A **Patient** is assigned to one **Room** during their stay.
   * Each **Room** can be assigned to only one **Patient** at a time.
   * **Cardinality**: **1:1** from **Patient** to **Room**.
4. **Patient - Bill (1:M)**:
   * One **Patient** can have multiple **Bills** for different services during their stay.
   * Each **Bill** belongs to exactly one **Patient**.
   * **Cardinality**: **1:M** from **Patient** to **Bill**.

