

```

-- Database creation
CREATE DATABASE IF NOT EXISTS healthcare_anderson;
USE healthcare_anderson;

-- Patients Table
CREATE TABLE patients (
    patient_id INT AUTO_INCREMENT PRIMARY KEY,
    name VARCHAR(100),
    dob DATE,
    gender ENUM('Male', 'Female', 'Other'),
    contact VARCHAR(15),
    email VARCHAR(100),
    address TEXT
);

-- Tests Table
CREATE TABLE tests (
    test_id INT AUTO_INCREMENT PRIMARY KEY,
    name VARCHAR(100),
    category VARCHAR(100),
    price DECIMAL(10, 2)
);

-- Appointments Table
CREATE TABLE appointments (
    appointment_id INT AUTO_INCREMENT PRIMARY KEY,
    patient_id INT,
    test_id INT,
    appointment_date DATE,
    appointment_time TIME,
    status ENUM('Booked', 'Completed', 'Cancelled') DEFAULT 'Booked',
    FOREIGN KEY (patient_id) REFERENCES patients(patient_id),
    FOREIGN KEY (test_id) REFERENCES tests(test_id)
);

-- Test Results Table
CREATE TABLE test_results (
    result_id INT AUTO_INCREMENT PRIMARY KEY,
    test_id INT,
    patient_id INT,
    result TEXT,
    result_date DATE,
    FOREIGN KEY (test_id) REFERENCES tests(test_id),
    FOREIGN KEY (patient_id) REFERENCES patients(patient_id)
);

-- Billing Table
CREATE TABLE billing (
    bill_id INT AUTO_INCREMENT PRIMARY KEY,
    patient_id INT,
    total DECIMAL(10, 2),
    payment_status ENUM('Paid', 'Pending', 'Insurance') DEFAULT 'Pending',
    billing_date DATE,

```

```

FOREIGN KEY (patient_id) REFERENCES patients(patient_id)
);

-- Sample Data: Patients
INSERT INTO patients (name, dob, gender, contact, email, address) VALUES
('John Doe', '1990-05-12', 'Male', '9876543210', 'johndoe@example.com', 'Chennai, India'),
('Jane Smith', '1985-08-22', 'Female', '9123456780', 'janesmith@example.com', 'Bangalore, India'),
('Ravi Kumar', '1978-01-15', 'Male', '9988776655', 'ravikumar@example.com', 'Hyderabad, India');

-- Sample Data: Tests
INSERT INTO tests (name, category, price) VALUES
('Complete Blood Count (CBC)', 'Blood Test', 400.00),
('MRI Scan - Brain', 'Imaging', 3500.00),
('Liver Function Test', 'Blood Test', 850.00);

-- Sample Data: Appointments
INSERT INTO appointments (patient_id, test_id, appointment_date, appointment_time, status) VALUES
(1, 1, '2025-05-15', '09:30:00', 'Booked'),
(2, 2, '2025-05-16', '11:00:00', 'Completed'),
(3, 3, '2025-05-17', '10:00:00', 'Booked');

-- Sample Data: Test Results
INSERT INTO test_results (test_id, patient_id, result, result_date) VALUES
(1, 1, 'Normal white and red cell counts.', '2025-05-15'),
(2, 2, 'MRI scan shows no abnormal findings.', '2025-05-16');

-- Sample Data: Billing
INSERT INTO billing (patient_id, total, payment_status, billing_date) VALUES
(1, 400.00, 'Paid', '2025-05-15'),
(2, 3500.00, 'Insurance', '2025-05-16'),
(3, 850.00, 'Pending', '2025-05-17');

-- Common Queries
-- 1. Patient Contact Info
SELECT patient_id, name, contact, email FROM patients;

-- 2. Test History for a Patient
SELECT p.name, t.name, tr.result, tr.result_date
FROM test_results tr
JOIN patients p ON tr.patient_id = p.patient_id
JOIN tests t ON tr.test_id = t.test_id
WHERE p.name = 'John Doe';

-- 3. Upcoming Appointments
SELECT a.appointment_id, p.name, t.name, a.appointment_date, a.appointment_time
FROM appointments a
JOIN patients p ON a.patient_id = p.patient_id
JOIN tests t ON a.test_id = t.test_id
WHERE a.status = 'Booked'
ORDER BY a.appointment_date, a.appointment_time;

```

```
-- 4. Total Billing per Patient
SELECT p.name, SUM(b.total) AS total_billed
FROM billing b
JOIN patients p ON b.patient_id = p.patient_id
GROUP BY b.patient_id;

-- 5. Unpaid or Pending Bills
SELECT b.bill_id, p.name, b.total, b.payment_status
FROM billing b
JOIN patients p ON b.patient_id = p.patient_id
WHERE b.payment_status != 'Paid';

-- 6. Most Common Tests
SELECT t.name, COUNT(tr.test_id) AS times_taken
FROM test_results tr
JOIN tests t ON tr.test_id = t.test_id
GROUP BY tr.test_id
ORDER BY times_taken DESC;
```