

## Hospital Management System

-- Create the Departments table first

```
CREATE TABLE Departments (  
    id INTEGER PRIMARY KEY,  
    name TEXT NOT NULL,  
    floor INT  
);
```

-- Create the Patients table

```
CREATE TABLE Patients (  
    id INTEGER PRIMARY KEY,  
    name TEXT NOT NULL,  
    dob DATE,  
    gender TEXT NOT NULL,  
    phone TEXT NOT NULL  
);
```

-- Create the Doctors table

```
CREATE TABLE Doctors (  
    id INTEGER PRIMARY KEY,  
    name TEXT NOT NULL,  
    specialization VARCHAR(150),  
    phone TEXT NOT NULL,  
    department_id INTEGER,  
    FOREIGN KEY (department_id) REFERENCES Departments(id)  
);
```

-- Create the Appointments table

```
CREATE TABLE Appointments (  
    id INTEGER PRIMARY KEY,  
    name TEXT NOT NULL,  
    appointment_date DATE,  
    status TEXT NOT NULL,  
    patient_id INT,  
    doctor_id INT,  
    FOREIGN KEY (patient_id) REFERENCES Patients(id),
```

```

FOREIGN KEY (doctor_id) REFERENCES Doctors(id)
);

-- Create the Medications table
CREATE TABLE Medications (
    id INTEGER PRIMARY KEY,
    medicine_name TEXT NOT NULL,
    dosage VARCHAR(100),
    start_date DATE,
    end_date DATE,
    patient_id INT,
    FOREIGN KEY (patient_id) REFERENCES Patients(id)
);

-- Insert sample values into the Patients table
INSERT INTO Patients VALUES
(1, 'Alice Johnson', '1990-05-15', 'F', '123-456-7890'),
(2, 'Bob Smith', '1985-09-21', 'M', '987-654-3210'),
(3, 'Eve Wilson', '2000-12-01', 'F', '555-123-4567');

-- Insert sample values into the Departments table
INSERT INTO Departments VALUES
(1, 'Cardiology', 1),
(2, 'Dermatology', 2),
(3, 'Neurology', 3);

-- Insert sample values into the Doctors table
INSERT INTO Doctors VALUES
(1, 'Dr. Smith', 'Cardiology', '111-222-3333', 1),
(2, 'Dr. Johnson', 'Dermatology', '444-555-6666', 2),
(3, 'Dr. Williams', 'Neurology', '777-888-9999', 3);

-- Insert sample values into the Appointments table
INSERT INTO Appointments VALUES
(1, 'Hasnine', '2024-01-15', 'Completed', 1, 1),
(2, 'Sumaiya', '2024-01-20', 'Scheduled', 2, 3),
(3, 'Rafa', '2024-01-18', 'Canceled', 3, 2);

-- Insert sample values into the Medications table
INSERT INTO Medications VALUES

```

```
(1, 'Aspirin', '100 mg daily', '2024-01-16', '2024-01-30', 1),
(2, 'Ibuprofen', '200 mg daily', '2024-01-18', '2024-01-25', 3);

-- Fetch all values from the tables

SELECT * FROM Patients;

SELECT * FROM Doctors;

SELECT * FROM Departments;

SELECT * FROM Appointments;

SELECT * FROM Medications;

--QUERY 1

SELECT

    p.name AS patient_name,

    d.name AS doctor_name,

    a.appointment_date

FROM

    appointments a

JOIN

    patients p ON a.patient_id = p.id

JOIN

    doctors d ON a.doctor_id = d.id

WHERE

    d.specialization = 'Cardiology';

--QUERY 2

SELECT

    d.name AS doctor_name,

    dep.name AS department_name

FROM

    doctors d

JOIN

    departments dep ON d.department_id = dep.id

LEFT JOIN

    appointments a ON d.id = a.doctor_id AND a.status = 'Scheduled'

WHERE

    a.id IS NULL;

--QUERY 3
```

```

SELECT
    COUNT(DISTINCT m.patient_id) AS num_patients_with_medications
FROM
    medications m;

```

--QUERY 4

```

SELECT
    p.name AS patient_name,
    d.name AS doctor_name,
    a.appointment_date
FROM
    appointments a
JOIN
    patients p ON a.patient_id = p.id
JOIN
    doctors d ON a.doctor_id = d.id

```

```

WHERE
    a.status = 'Completed';

```

--QUERY 5

```

SELECT
    dep.name AS department_name,
    dep.floor
FROM
    doctors d
JOIN
    departments dep ON d.department_id = dep.id
JOIN
    appointments a ON d.id = a.doctor_id
WHERE
    a.patient_id IS NOT NULL
GROUP BY
    dep.name, dep.floor;

```

```

1|Alice Johnson|1990-05-15|F|123-456-7890
2|Bob Smith|1985-09-21|M|987-654-3210
3|Eve Wilson|2000-12-01|F|555-123-4567
1|Dr. Smith|Cardiology|111-222-3333|1
2|Dr. Johnson|Dermatology|444-555-6666|2
3|Dr. Williams|Neurology|777-888-9999|3
1|Cardiology|1
2|Dermatology|2
3|Neurology|3
1|Hasnine|2024-01-15|Completed|1|1
2|Sumaiya|2024-01-20|Scheduled|2|3
3|Rafa|2024-01-18|Canceled|3|2
1|Aspirin|100 mg daily|2024-01-16|2024-01-30|1
2|Ibuprofen|200 mg daily|2024-01-18|2024-01-25|3
Alice Johnson|Dr. Smith|2024-01-15
Dr. Smith|Cardiology
Dr. Johnson|Dermatology
2
Alice Johnson|Dr. Smith|2024-01-15
Cardiology|1
Dermatology|2
Neurology|3

```

[Execution complete with exit code 0]