Scenario: Hospital Management System

A hospital wants to digitize its patient records and appointment scheduling. They've asked you to design a relational database to manage the following:

- Patients: Each patient has a unique ID, name, age, gender, contact number, and address.
- Doctors: Each doctor has a unique ID, name, specialization, and contact number.
- Appointments: Patients can book appointments with doctors. Each appointment has a unique ID, date, time, and status (Scheduled, Completed, Cancelled).
- Prescriptions: After an appointment, a doctor may prescribe medicines. Each prescription includes the appointment ID, medicine name, dosage, and duration.

Lab Task

Part A: Database Design

1. Create the necessary tables with appropriate primary and foreign keys.
2. Ensure referential integrity between tables using constraints.

Part B: SQL Queries

Write SQL queries for the following:

1. Insert sample data for 3 patients, 2 doctors, and 5 appointments.
2. Retrieve all appointments scheduled for a specific doctor.
3. List all patients who have had more than one appointment.
4. Update the status of an appointment to "Completed".
5. Delete a patient and ensure all related appointments and prescriptions are also removed (use cascading).

Part C: Advanced Query

Write a query to show the names of doctors along with the number of appointments they've had, ordered by the highest number.