



SCS1309 Database Management

Lab Sheet - MySQL 01 & 02

A hospital is transitioning to a new database system to manage its patients, doctors, and appointments efficiently. Your task is to help design, populate, and manipulate the database using SQL Workbench. Follow the instructions below to complete the tasks step-by-step.

I. Create a schema named **HospitalDB**.

II. Create the following tables

Doctors Table

| Column Name | Data Type | Constraints |
|---------------|--------------|------------------|
| DoctorID | INTEGER | Primary Key |
| FirstName | VARCHAR(50) | NOT NULL |
| LastName | VARCHAR(50) | NOT NULL |
| Specialty | VARCHAR(100) | NOT NULL |
| ContactNumber | VARCHAR(15) | UNIQUE, NOT NULL |
| HireDate | DATE | NOT NULL |

Patients Table

| Column Name | Data Type | Constraints |
|---------------|-------------|------------------------------|
| PatientID | INTEGER | Primary Key |
| FirstName | VARCHAR(50) | NOT NULL |
| LastName | VARCHAR(50) | NOT NULL |
| DOB | DATE | NOT NULL |
| Gender | CHAR(1) | CHECK (Gender IN ('M', 'F')) |
| ContactNumber | VARCHAR(15) | UNIQUE, NOT NULL |
| Address | TEXT | |

Appointments Table

| Column Name | Data Type | Constraints |
|-----------------|-------------|---|
| AppointmentID | INTEGER | Primary Key |
| PatientID | INTEGER | Foreign Key referencing Patients(PatientID) |
| DoctorID | INTEGER | Foreign Key referencing Doctors(DoctorID) |
| AppointmentDate | DATE | NOT NULL |
| AppointmentTime | TIME | NOT NULL |
| Status | VARCHAR(20) | Default: 'Scheduled' |

III. Insert the following records into the **Doctors** table:

| DoctorID | FirstName | LastName | Specialty | ContactNumber | HireDate |
|----------|-----------|----------|------------|---------------|------------|
| 1 | Sarah | Lee | Cardiology | 9876543210 | 2020-05-01 |
| 2 | John | Adams | Neurology | 8765432109 | 2018-03-15 |
| 3 | Priya | Kumar | Pediatrics | 7654321098 | 2021-08-20 |

IV. Add the following records to the **Patients** table

| PatientID | FirstName | LastName | DOB | Gender | ContactNumber | Address |
|-----------|-----------|----------|------------|--------|---------------|-----------------|
| 101 | Alice | Brown | 1985-02-14 | F | 1234567890 | 12 Maple Street |
| 102 | Bob | Green | 1990-11-23 | M | 2345678901 | 45 Oak Avenue |

V. Insert the following records into the **Appointments** table

| AppointmentID | PatientID | DoctorID | AppointmentDate | AppointmentTime | Status |
|---------------|-----------|----------|-----------------|-----------------|-----------|
| 1 | 101 | 1 | 2024-01-15 | 10:00:00 | Scheduled |
| 2 | 102 | 2 | 2024-01-15 | 11:30:00 | Scheduled |

VI. Insert one more following record into **Appointments** where DoctorID: 5 is referenced.
Explain why this fails.

| AppointmentID | PatientID | DoctorID | AppointmentDate | AppointmentTime | Status |
|---------------|-----------|----------|-----------------|-----------------|-----------|
| 3 | 101 | 5 | 2024-01-15 | 12:00:00 | Scheduled |

VII. Create a table named **DataTypeTest** with the following columns

| Column Name | Data Type | Description | Constraints |
|---------------|---------------|---|-------------|
| TestID | INTEGER | Unique identifier for each record | Primary Key |
| SampleText | TEXT | Stores a paragraph of text | - |
| SampleDate | DATE | Stores a date | - |
| SampleTime | TIME | Stores a time value | - |
| SampleDecimal | DECIMAL(10,2) | Stores a decimal number (10 digits, 2 decimals) | - |

VIII. Insert the following records into the **DataTypeTest** table

| TestID | SampleText | SampleDate | SampleTime | SampleDecimal |
|--------|-----------------|------------|------------|---------------|
| 1 | This is a test. | 2025-01-01 | 14:30:00 | 1234.56 |
| 2 | Learning MySQL. | 2025-01-02 | 09:45:00 | 78.90 |

- IX. Add a constraint to the **Appointments** table to ensure that appointments can only be scheduled between 8:00 AM and 6:00 PM.
- X. Add a constraint to ensure no doctor can have more than 10 appointments in a single day. Test this constraint by attempting to schedule the 11th appointment for a doctor.
- XI. Truncate the **Patients** table to clear all records without deleting its structure.
- XII. Drop the **DataTypeTest** table entirely.