-- Publisher

INSERT INTO Publisher VALUES (1, 'Pearson', 2019), (2, 'O\'Reilly', 2021);

-- Books

INSERT INTO Books VALUES

('978-1-23-456789-0', 'Learning SQL', 39.99, 'Education', '1st', 101, 1),

('978-0-12-345678-9', 'Database Systems', 49.99, 'Education', '2nd', 102, 2);

-- Readers

INSERT INTO Readers VALUES

(1, 'Alice', 'Smith', 'alice@example.com', '1234567890', '123 Elm Street'),

(2, 'Bob', 'Johnson', 'bob@example.com', '0987654321', '456 Oak Avenue');

-- ReserveDate

INSERT INTO ReserveDate (User\_ID, ISBN, reserve\_date, return\_date, due\_date) VALUES

(1, '978-1-23-456789-0', '2025-04-01', '2025-04-15', '2025-04-20'),

(2, '978-0-12-345678-9', '2025-04-10', NULL, '2025-04-25');

-- Staff

INSERT INTO Staff VALUES (101, 'Mr. Wilson'), (102, 'Ms. Parker');

-- Login

INSERT INTO Login VALUES (1001, 'securePass1'), (1002, 'securePass2');

-- Authentication

INSERT INTO Authentication VALUES (101, 1001), (102, 1002);

-- Reports

INSERT INTO Reports (Book\_No, User\_id, Issue\_Return, Staff\_id) VALUES

('978-1-23-456789-0', 1, 'Issue', 101),

('978-0-12-345678-9', 2, 'Return', 102);

-- List All Tables

SHOW TABLES;

-- View Each Table's Data

SELECT \* FROM Publisher;

SELECT \* FROM Books;

SELECT \* FROM Readers;

SELECT \* FROM ReserveDate;

SELECT \* FROM Staff;

SELECT \* FROM Login;

SELECT \* FROM Authentication;

SELECT \* FROM Reports;

-- Add NOT NULL and UNIQUE constraints

ALTER TABLE Publisher

MODIFY name VARCHAR(100) NOT NULL,

MODIFY yearOfPublication YEAR NOT NULL;

ALTER TABLE Books

MODIFY Title VARCHAR(255) NOT NULL,

MODIFY Category VARCHAR(50) NOT NULL,

MODIFY ISBN VARCHAR(20) NOT NULL UNIQUE,

ADD CHECK (Price >= 0);

ALTER TABLE Readers

MODIFY Firstname VARCHAR(50) NOT NULL,

MODIFY lastName VARCHAR(50) NOT NULL,

MODIFY Email VARCHAR(100) NOT NULL UNIQUE,

MODIFY Phone\_no VARCHAR(15) NOT NULL;

ALTER TABLE ReserveDate

MODIFY reserve\_date DATE NOT NULL,

MODIFY due\_date DATE NOT NULL,

ADD CHECK (due\_date >= reserve\_date);

ALTER TABLE Staff

MODIFY name VARCHAR(100) NOT NULL;

ALTER TABLE Login

MODIFY Password VARCHAR(255) NOT NULL;

ALTER TABLE Reports

MODIFY Issue\_Return ENUM('Issue', 'Return') NOT NULL;

SELECT TABLE\_NAME, COLUMN\_NAME

FROM INFORMATION\_SCHEMA.KEY\_COLUMN\_USAGE

WHERE CONSTRAINT\_NAME = 'PRIMARY' AND TABLE\_SCHEMA = DATABASE();

SELECT TABLE\_NAME, COLUMN\_NAME, CONSTRAINT\_NAME, REFERENCED\_TABLE\_NAME, REFERENCED\_COLUMN\_NAME

FROM INFORMATION\_SCHEMA.KEY\_COLUMN\_USAGE

WHERE REFERENCED\_TABLE\_NAME IS NOT NULL AND TABLE\_SCHEMA = DATABASE();

SELECT TABLE\_NAME, CONSTRAINT\_NAME, CHECK\_CLAUSE

FROM INFORMATION\_SCHEMA.CHECK\_CONSTRAINTS;