# SQL Commands

## 1. Library System

a. Create the `Books` table:

CREATE TABLE Books (  
 BookID INT PRIMARY KEY,  
 Title VARCHAR(100),  
 Author VARCHAR(50),  
 PublishedYear INT  
);

b. Add a new column `ISBN`:

ALTER TABLE Books  
ADD ISBN VARCHAR(13);

c. Delete the `PublishedYear` column:

ALTER TABLE Books  
DROP COLUMN PublishedYear;

## 2. School Database

a. Retrieve names of students older than 15:

SELECT Name  
FROM Students  
WHERE Age > 15;

b. Insert a new record:

INSERT INTO Students (StudentID, Name, Age, Grade)  
VALUES (104, 'Tom Brown', 15, 'C');

c. Update Jane Doe's grade:

UPDATE Students  
SET Grade = 'A+'  
WHERE Name = 'Jane Doe';

d. Delete records of students with grade 'C':

DELETE FROM Students  
WHERE Grade = 'C';

## 3. Permissions for `User2`

a. Grant `SELECT` and `INSERT` privileges:

GRANT SELECT, INSERT ON Books TO User2;

b. Revoke the `INSERT` privilege:

REVOKE INSERT ON Books FROM User2;

## 4. Transactions for Shopping Cart

BEGIN TRANSACTION;  
  
-- a. Start the transaction  
INSERT INTO Orders (OrderID, ProductID, Quantity)  
VALUES (201, 105, 2);  
  
-- b. Deduct quantity from inventory  
UPDATE Inventory  
SET Quantity = Quantity - 2  
WHERE ProductID = 105;  
  
-- c. Commit or rollback  
IF @@ERROR <> 0  
BEGIN  
 ROLLBACK TRANSACTION;  
END  
ELSE  
BEGIN  
 COMMIT TRANSACTION;  
END

## 5. Online Store Operations

a. Create `Customers` table:

CREATE TABLE Customers (  
 CustomerID INT PRIMARY KEY,  
 Name VARCHAR(50),  
 Email VARCHAR(50),  
 Phone VARCHAR(15)  
);

b. Insert a customer record:

INSERT INTO Customers (CustomerID, Name, Email, Phone)  
VALUES (201, 'Emily Clark', 'emily@example.com', '1234567890');

c. Grant `SELECT` privilege to `AdminUser`:

GRANT SELECT ON Customers TO AdminUser;

d. Roll back the last inserted record:

BEGIN TRANSACTION;  
  
DELETE FROM Customers  
WHERE CustomerID = 201;  
  
ROLLBACK TRANSACTION;