CREATE DATABASE ECommerceDB;

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USE ECommerceDB;

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CREATE TABLE Customer (

CustomerID INT AUTO\_INCREMENT PRIMARY KEY,

Name VARCHAR(100) NOT NULL,

Email VARCHAR(100) UNIQUE NOT NULL,

Phone VARCHAR(20),

Address TEXT

);

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CREATE TABLE Category (

CategoryID INT AUTO\_INCREMENT PRIMARY KEY,

Name VARCHAR(100) NOT NULL,

Description TEXT

);

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CREATE TABLE Product (

ProductID INT AUTO\_INCREMENT PRIMARY KEY,

Name VARCHAR(100) NOT NULL,

Description TEXT,

Price DECIMAL(10,2) NOT NULL,

StockQty INT DEFAULT 0,

CategoryID INT,

FOREIGN KEY (CategoryID) REFERENCES Category(CategoryID)

);

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CREATE TABLE Orders (

OrderID INT AUTO\_INCREMENT PRIMARY KEY,

CustomerID INT,

OrderDate DATETIME DEFAULT CURRENT\_TIMESTAMP,

Status VARCHAR(50),

FOREIGN KEY (CustomerID) REFERENCES Customer(CustomerID)

);

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CREATE TABLE OrderItem (

OrderItemID INT AUTO\_INCREMENT PRIMARY KEY,

OrderID INT,

ProductID INT,

Quantity INT NOT NULL,

Price DECIMAL(10,2) NOT NULL,

FOREIGN KEY (OrderID) REFERENCES Orders(OrderID),

FOREIGN KEY (ProductID) REFERENCES Product(ProductID)

);

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CREATE TABLE Payment (

PaymentID INT AUTO\_INCREMENT PRIMARY KEY,

OrderID INT,

PaymentDate DATETIME DEFAULT CURRENT\_TIMESTAMP,

Amount DECIMAL(10,2) NOT NULL,

PaymentMethod VARCHAR(50),

FOREIGN KEY (OrderID) REFERENCES Orders(OrderID)

);

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-- Insert into Category

INSERT INTO Category (Name, Description) VALUES

('Electronics', 'Devices and gadgets'),

('Books', NULL), -- Missing description

('Clothing', 'Apparel and accessories');

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-- Insert into Customer

INSERT INTO Customer (Name, Email, Phone, Address) VALUES

('Alice Sharma', 'alice@example.com', '9876543210', 'Delhi'),

('Bob Verma', 'bob@example.com', NULL, 'Mumbai'), -- Missing phone

('Charlie Khan', 'charlie@example.com', '9988776655', NULL); -- Missing address

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-- Insert into Product

INSERT INTO Product (Name, Description, Price, StockQty, CategoryID) VALUES

('Smartphone', 'Android phone', 19999.99, 50, 1),

('Novel - Fiction', NULL, 299.00, 200, 2), -- No description

('T-shirt', '100% cotton', 499.50, 100, 3);

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INSERT INTO Orders (CustomerID, OrderDate, Status) VALUES

(1, NOW(), 'Shipped'),

(2, NOW(), 'Pending');

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INSERT INTO OrderItem (OrderID, ProductID, Quantity, Price) VALUES

(1, 1, 1, 19999.99), -- Smartphone

(1, 2, 2, 299.00), -- Novel - Fiction

(2, 3, 3, 399.50); -- T-shirt (ProductID = 3, not 4)

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-- Insert into Payment

INSERT INTO Payment (OrderID, PaymentDate, Amount, PaymentMethod) VALUES

(1, NOW(), 20597.99, 'Credit Card'),

(2, NOW(), 1198.50, 'Cash on Delivery');

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-- Add phone number for Bob

UPDATE Customer

SET Phone = '9988776655'

WHERE Name = 'Bob Patel';

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-- Update Product description that was NULL

UPDATE Product

SET Description = 'Popular fiction novel'

WHERE Name = 'Fiction Book';

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-- Set order status to 'Delivered'

UPDATE Orders

SET Status = 'Delivered'

WHERE OrderID = 1;

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-- Delete a customer with no orders (example only, adjust ID as needed)

DELETE FROM Customer

WHERE CustomerID = 4;

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-- Delete a product with stock = 0 (simulate out-of-stock cleanup)

DELETE FROM Product

WHERE StockQty = 0;

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-- All customers

SELECT \* FROM Customer;

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-- All products

SELECT \* FROM Product;

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-- Product names and prices

SELECT Name, Price FROM Product;

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-- Customer names and email

SELECT Name, Email FROM Customer;

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-- Products with price greater than 1000

SELECT \* FROM Product

WHERE Price > 1000;

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-- Customers from Delhi or Mumbai

SELECT \* FROM Customer

WHERE Address LIKE '%Delhi%' OR Address LIKE '%Mumbai%';

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-- Products with "shirt" in the name (case-insensitive)

SELECT \* FROM Product

WHERE Name LIKE '%shirt%';

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-- Products with price between 300 and 2000

SELECT \* FROM Product

WHERE Price BETWEEN 300 AND 2000;

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-- Orders with specific statuses

SELECT \* FROM Orders

WHERE Status IN ('Shipped', 'Delivered');

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-- Sort products by price (low to high)

SELECT \* FROM Product

ORDER BY Price ASC;

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-- Sort customers by name (Z to A)

SELECT \* FROM Customer

ORDER BY Name DESC;

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SELECT CustomerID, COUNT(\*) AS TotalOrders

FROM Orders

GROUP BY CustomerID;

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SELECT OrderID, SUM(Price \* Quantity) AS TotalAmount

FROM OrderItem

GROUP BY OrderID;

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SELECT CategoryID, AVG(Price) AS AvgPrice

FROM Product

GROUP BY CategoryID;

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AI-generated content may be incorrect.

SELECT CategoryID, COUNT(\*) AS ProductCount

FROM Product

GROUP BY CategoryID;

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AI-generated content may be incorrect.

SELECT CustomerID, COUNT(\*) AS OrderCount

FROM Orders

GROUP BY CustomerID

HAVING COUNT(\*) > 1;

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SELECT ProductID, SUM(Quantity) AS TotalSold

FROM OrderItem

GROUP BY ProductID;

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SELECT PaymentMethod, AVG(Amount) AS AvgPayment

FROM Payment

GROUP BY PaymentMethod;

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SELECT ProductID, SUM(Quantity) AS TotalQuantity

FROM OrderItem

GROUP BY ProductID

ORDER BY TotalQuantity DESC

LIMIT 3;

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