



SUPPLY CHAIN MANAGEMENT

DATABASE

GROUP 73

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PREFACE

In the era defined by the globalization, efficiency and the reliability of the supply chain management system are required by the organizations for success. And also supply chains become very complex with the involvement of the more suppliers and the customers. Therefore it is necessary to meet the customer demand while optimizing the cost via the better supply chain management.

In this project, data related to the suppliers, products, orders, warehouses, shipments are collected and organized in a fruitful manner. In the pages that follow, we provide a comprehensive overview of our project from low level to advanced level by using relevant diagrams and queries.

CHAPTER 1: REQUIREMENT ANALYSIS

1.1. Functional Requirements

Functional requirements are defined as the operations that the designed data base system must do to meet the requirements of the client. In this Supply chain management system, functional requirement are need to ensure that this system can effectively engage with the operations of the supply chain.

Here, functional requirements are mainly involving in,

- Supplier management,
 - ✓ Create and manage the purchase orders
 - ✓ Handle supplier payment processing with various payment methods and terms
 - ✓ Maintain a database of supplier profiles
- Order processing
 - ✓ Add, modify and cancel the orders by the customers
 - ✓ Provide order history for both customers and internal teams
- Inventory management
 - ✓ Real-time tracking of available inventory levels of the warehouse
 - ✓ Categorized the inventories by their properties
- Warehouse management
 - ✓ Real- time tracking of available free space of the warehouses
- Transportation management
 - ✓ Track the shipments

1.2. Data Requirements

Data requirements are defined as the type of data need to be collected and stored in the data base to perform the operations of the supply chain management system.

Those data can be expressed as entities with their attributes as follow.

<u>Entity</u>	<u>Attributes</u>
✓ Product	→ Product_ID → Name → Description → Supplier → Unit price → Quantity_in_stock
✓ Order	→ Order_ID → Customer_ID → Product_ID → Parent_order_ID → Total_amount → Order_date → Order_status → Delivery_Date
✓ Inventory	→ Product_ID → Warehouse_ID → Quantity_in_stock → Recorder_level → Last_restock_date
✓ Warehouse	→ Warehouse_ID → Name → Capacity → Location → Parent_Warehouse_ID

- ✓ Shipment
 - Shipment_ID
 - Warehouse_ID
 - Order_ID
 - Tracking_number
 - Delivery_address
 - Shipment_Date
 - Shipping_Method

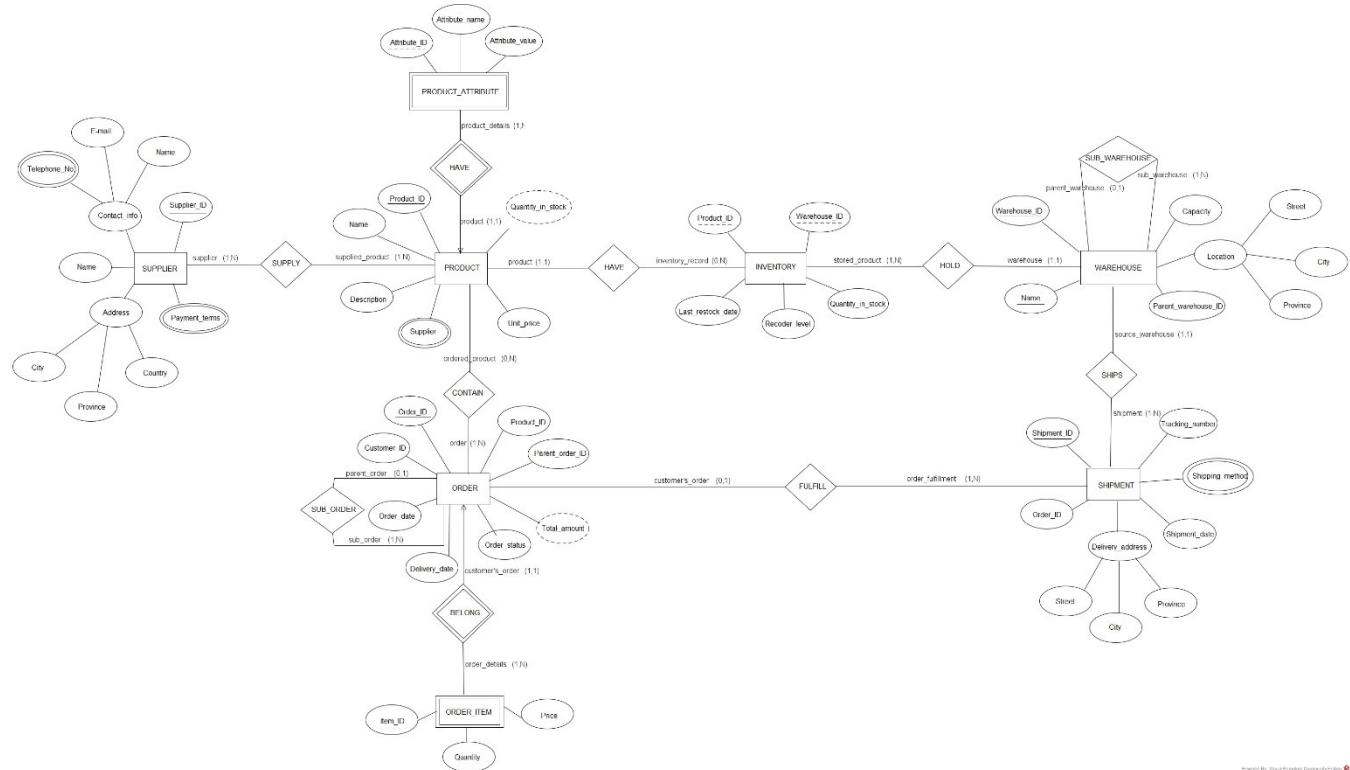
- ✓ Supplier
 - Supplier_ID
 - Name
 - Contact_Information
 - Address
 - Payment_term

- ✓ Oder_Item
 - Item_ID
 - Quantity
 - Price

- ✓ Product_Attribute
 - Attribute_ID
 - Attribute_name
 - Attribute_value

CHAPTER 2: CONCEPTUAL DESIGN

Entity relationship diagram of the Supply chain management system is drawn by using Visual Paradigm tool.



CHAPTER 3: TRANSACTIONS

3.1. Creating schema.

```
MySQL 8.0 Command Line Client - Unicode
Enter password: *****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 56
Server version: 8.0.33 MySQL Community Server - GPL

Copyright (c) 2000, 2023, Oracle and/or its affiliates.

Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> show databases;
+-----+
| Database |
+-----+
| foe_ruh |
| information_schema |
| mysql |
| performance_schema |
| sakila |
| student |
| sys |
| world |
+-----+
8 rows in set (0.01 sec)

mysql> create database supply_chain_management_system;
Query OK, 1 row affected (0.01 sec)

mysql> show databases;
+-----+
| Database |
+-----+
| foe_ruh |
| information_schema |
| mysql |
| performance_schema |
| sakila |
| student |
| supply_chain_management_system |
| sys |
| world |
+-----+
9 rows in set (0.00 sec)

mysql>
```

3.2. Creating tables.

3.2.1. Product table

```
mysql> Select MySQL 8.0 Command Line Client - Unicode
mysql> use supply_chain_management_system;
Database changed
mysql> create table product(
    >     ProductID varchar(4) not null,
    >     ProductName varchar(20),
    >     QuantityInStock int(5),
    >     UnitPrice float(5),
    >     Descrip varchar(50),
    >     primary key (ProductID)
    > );
Query OK, 0 rows affected, 1 warning (0.04 sec)

mysql> show create table product;
+-----+
| Table | Create Table
+-----+
|-----+
| product | CREATE TABLE `product` (
  `ProductID` varchar(4) NOT NULL,
  `ProductName` varchar(20) DEFAULT NULL,
  `QuantityInStock` int DEFAULT NULL,
  `UnitPrice` float DEFAULT NULL,
  `Descrip` varchar(50) DEFAULT NULL,
  PRIMARY KEY ( `ProductID` )
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci |
+-----+
1 row in set (0.01 sec)

mysql> █
```

3.2.2. Product_supplier table

```
MySQL 8.0 Command Line Client - Unicode

mysql> create table product_supplier(
    -> ProductID varchar(4),
    -> Supplier varchar(20),
    -> primary key (ProductID, Supplier),
    -> foreign key (ProductID) references product(ProductID)
    -> );
Query OK, 0 rows affected (0.02 sec)

mysql> show create table product_supplier;
+-----+-----+
| Table | Create Table |
+-----+-----+
| product_supplier | CREATE TABLE `product_supplier` (
`ProductID` varchar(4) NOT NULL,
`Supplier` varchar(20) NOT NULL,
PRIMARY KEY (`ProductID`, `Supplier`),
CONSTRAINT `product_supplier_ibfk_1` FOREIGN KEY (`ProductID`) REFERENCES `product` (`ProductID`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci |
+-----+-----+
1 row in set (0.00 sec)

mysql> -
```

3.2.3. Supplier table

```
MySQL 8.0 Command Line Client - Unicode

mysql> create table supplier(
    -> SupplierID varchar(4) not null,
    -> SupplierName varchar(20),
    -> SupplierEmail varchar(30),
    -> SupplierCity varchar(30),
    -> SupplierProvince varchar(30),
    -> SupplierCountry varchar(30),
    -> primary key (SupplierID)
    -> );
Query OK, 0 rows affected (0.02 sec)

mysql> show create table supplier;
+-----+-----+
| Table | Create Table |
+-----+-----+
| supplier | CREATE TABLE `supplier` (
`SupplierID` varchar(4) NOT NULL,
`SupplierName` varchar(20) DEFAULT NULL,
`SupplierEmail` varchar(30) DEFAULT NULL,
`SupplierCity` varchar(30) DEFAULT NULL,
`SupplierProvince` varchar(30) DEFAULT NULL,
`SupplierCountry` varchar(30) DEFAULT NULL,
PRIMARY KEY (`SupplierID`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci |
+-----+-----+
1 row in set (0.01 sec)

mysql>
```

3.2.4. Supplier_telephone table

```
MySQL 8.0 Command Line Client - Unicode

mysql> create table supplier_telephone(
    -> SupplierID varchar(4),
    -> Telephone int(12),
    -> primary key (SupplierID, Telephone),
    -> foreign key (SupplierID) references supplier(SupplierID)
    -> );
Query OK, 0 rows affected, 1 warning (0.02 sec)

mysql> show create table supplier_telephone;
+-----+-----+
| Table          | Create Table           |
+-----+-----+
| supplier_telephone | CREATE TABLE `supplier_telephone` (
  `SupplierID` varchar(4) NOT NULL,
  `Telephone` int NOT NULL,
  PRIMARY KEY (`SupplierID`, `Telephone`),
  CONSTRAINT `supplier_telephone_ibfk_1` FOREIGN KEY (`SupplierID`) REFERENCES `supplier` (`SupplierID`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci |
+-----+-----+
1 row in set (0.00 sec)

mysql>
```

3.2.5. Supplier_paymentTerm table

```
MySQL 8.0 Command Line Client - Unicode

mysql> create table supplier_paymentTerms(
    -> SupplierID varchar(4),
    -> PaymentTerms varchar(20),
    -> primary key (SupplierID, PaymentTerms),
    -> foreign key (SupplierID) references supplier(SupplierID)
    -> );
Query OK, 0 rows affected (0.02 sec)

mysql> show create table supplier_paymentTerms;
+-----+-----+
| Table          | Create Table           |
+-----+-----+
| supplier_paymentTerms | CREATE TABLE `supplier_paymentterms` (
  `SupplierID` varchar(4) NOT NULL,
  `PaymentTerms` varchar(20) NOT NULL,
  PRIMARY KEY (`SupplierID`, `PaymentTerms`),
  CONSTRAINT `supplier_paymentterms_ibfk_1` FOREIGN KEY (`SupplierID`) REFERENCES `supplier` (`SupplierID`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci |
+-----+-----+
1 row in set (0.01 sec)

mysql>
```

3.2.6. Order table

```
MySQL 8.0 Command Line Client - Unicode

mysql> create table p_order(
    --> OrderID varchar(4) not null,
    --> ProductID varchar(4) not null,
    --> CustomerID varchar(4) not null,
    --> ParentOrderID varchar(4) not null,
    --> SubOrderID varchar(4) not null,
    --> OrderDate date,
    --> DeliveryDate date,
    --> OrderStatus boolean,
    --> TotalAmount float(5),
    --> primary key (OrderID),
    --> foreign key (SubOrderID) references p_order(OrderID)
    --> );
Query OK, 0 rows affected (0.03 sec)

mysql> show create table p_order;
+-----+-----+
| Table | Create Table
+-----+-----+
| p_order | CREATE TABLE `p_order` (
  `OrderID` varchar(4) NOT NULL,
  `ProductID` varchar(4) NOT NULL,
  `CustomerID` varchar(4) NOT NULL,
  `ParentOrderID` varchar(4) NOT NULL,
  `SubOrderID` varchar(4) NOT NULL,
  `OrderDate` date DEFAULT NULL,
  `DeliveryDate` date DEFAULT NULL,
  `OrderStatus` tinyint(1) DEFAULT NULL,
  `TotalAmount` float DEFAULT NULL,
  PRIMARY KEY (`OrderID`),
  KEY `SubOrderID` (`SubOrderID`),
  CONSTRAINT `p_order_ibfk_1` FOREIGN KEY (`SubOrderID`) REFERENCES `p_order` (`OrderID`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci |
+-----+-----+
1 row in set (0.00 sec)

29°C Mostly cloudy   Search   b   d   e   f   g   h   i   j   k   l   m   n   o   p   q   r   s   t   u   v   w   x   y   z   ENG US   10:48 AM   9/10/2023
```

3.2.7. Inventory table

```
MySQL 8.0 Command Line Client - Unicode

mysql> create table inventory(
    --> ProductID varchar(4) not null,
    --> WarehouseID varchar(4),
    --> RecorderLevel varchar(20),
    --> LastStockDate date,
    --> QuantityInStock int(5),
    --> primary key (ProductID, WarehouseID)
    --> );
Query OK, 0 rows affected, 1 warning (0.02 sec)

mysql> show create table inventory;
+-----+-----+
| Table | Create Table
+-----+-----+
| inventory | CREATE TABLE `inventory` (
  `ProductID` varchar(4) NOT NULL,
  `WarehouseID` varchar(4) NOT NULL,
  `RecorderLevel` varchar(20) DEFAULT NULL,
  `LastStockDate` date DEFAULT NULL,
  `QuantityInStock` int DEFAULT NULL,
  PRIMARY KEY (`ProductID`, `WarehouseID`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci |
+-----+-----+
1 row in set (0.00 sec)

mysql>

29°C Mostly cloudy   Search   b   d   e   f   g   h   i   j   k   l   m   n   o   p   q   r   s   t   u   v   w   x   y   z   ENG US   10:50 AM   9/10/2023
```

3.2.8. Warehouse table

```
MySQL 8.0 Command Line Client - Unicode

mysql> create table warehouse(
    --> WarehouseID varchar(4) not null,
    --> WarehouseName varchar(20) not null,
    --> Capacity int(10),
    --> ParentWarehouseID varchar(4),
    --> SubWarehouseID varchar(4),
    --> WarehouseCity varchar(30),
    --> WarehouseProvince varchar(30),
    --> WarehouseCountry varchar(30),
    --> primary key (WarehouseID),
    --> foreign key (SubWarehouseID) references warehouse(WarehouseID)
    --> );
Query OK, 0 rows affected, 1 warning (0.02 sec)

mysql> show create table warehouse;
+-----+-----+
| Table | Create Table |
+-----+-----+
| warehouse | CREATE TABLE `warehouse` (
  `WarehouseID` varchar(4) NOT NULL,
  `WarehouseName` varchar(20) NOT NULL,
  `Capacity` int DEFAULT NULL,
  `ParentWarehouseID` varchar(4) DEFAULT NULL,
  `SubWarehouseID` varchar(4) DEFAULT NULL,
  `WarehouseCity` varchar(30) DEFAULT NULL,
  `WarehouseProvince` varchar(30) DEFAULT NULL,
  `WarehouseCountry` varchar(30) DEFAULT NULL,
  PRIMARY KEY (`WarehouseID`),
  KEY `SubWarehouseID` (`SubWarehouseID`),
  CONSTRAINT `warehouse_ibfk_1` FOREIGN KEY (`SubWarehouseID`) REFERENCES `warehouse` (`WarehouseID`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci |
+-----+-----+
1 row in set (0.00 sec)

mysql>
```

3.2.9. Shipment table

```
MySQL 8.0 Command Line Client - Unicode

mysql> create table shipment(
    --> ShipmentID varchar(4) not null,
    --> OrderID varchar(4) not null,
    --> WarehouseID varchar(4) not null,
    --> TrackingNumber varchar(10),
    --> ShippingDate date,
    --> ShippingStreet varchar(30),
    --> ShippingCity varchar(30),
    --> ShippingProvince varchar(30),
    --> ShippingCountry varchar(30),
    --> primary key (ShipmentID)
    --> );
Query OK, 0 rows affected (0.01 sec)

mysql> show create table shipment;
+-----+-----+
| Table | Create Table |
+-----+-----+
| shipment | CREATE TABLE `shipment` (
  `ShipmentID` varchar(4) NOT NULL,
  `OrderID` varchar(4) NOT NULL,
  `WarehouseID` varchar(4) NOT NULL,
  `TrackingNumber` varchar(10) DEFAULT NULL,
  `ShippingDate` date DEFAULT NULL,
  `ShippingStreet` varchar(30) DEFAULT NULL,
  `ShippingCity` varchar(30) DEFAULT NULL,
  `ShippingProvince` varchar(30) DEFAULT NULL,
  `ShippingCountry` varchar(30) DEFAULT NULL,
  PRIMARY KEY (`ShipmentID`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci |
+-----+-----+
1 row in set (0.00 sec)

mysql>
```

3.2.10. Shipping method table

```
MySQL 8.0 Command Line Client - Unicode

mysql> create table shipping_method(
    >     ShipmentID varchar(4),
    >     ShippingMethod varchar(10),
    >     primary key (ShipmentID,ShippingMethod),
    >     foreign key (ShipmentID) references shipment(ShipmentID)
    > );
Query OK, 0 rows affected (0.02 sec)

mysql> show create table shipment_method;
ERROR 1146 (42S02): Table 'supply_chain_management_system.shipment_method' doesn't exist
mysql> show create table shipping_method;
+-----+-----+
| Table          | Create Table           |
+-----+-----+
| shipping_method | CREATE TABLE `shipping_method` (
  `ShipmentID` varchar(4) NOT NULL,
  `ShippingMethod` varchar(10) NOT NULL,
  PRIMARY KEY (`ShipmentID`, `ShippingMethod`),
  CONSTRAINT `shipping_method_ibfk_1` FOREIGN KEY (`ShipmentID`) REFERENCES `shipment` (`ShipmentID`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci |
+-----+-----+
1 row in set (0.01 sec)

mysql>
```

3.2.11. Product attribute table

```
MySQL 8.0 Command Line Client - Unicode

mysql> create table product_attribute(
    >     AttributeID varchar(4) not null,
    >    AttributeName varchar(20),
    >    AttributeValue varchar(25),
    >     ProductID varchar(4),
    >     primary key (AttributeID,ProductID),
    >     foreign key (ProductID) references product(ProductID)
    > );
Query OK, 0 rows affected (0.02 sec)

mysql> show create table product_attribute;
+-----+-----+
| Table          | Create Table           |
+-----+-----+
| product_attribute | CREATE TABLE `product_attribute` (
  `AttributeID` varchar(4) NOT NULL,
  `AttributeName` varchar(20) DEFAULT NULL,
  `AttributeValue` varchar(25) DEFAULT NULL,
  `ProductID` varchar(4) NOT NULL,
  PRIMARY KEY (`AttributeID`, `ProductID`),
  KEY `ProductID` (`ProductID`),
  CONSTRAINT `product_attribute_ibfk_1` FOREIGN KEY (`ProductID`) REFERENCES `product` (`ProductID`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci |
+-----+-----+
1 row in set (0.01 sec)

mysql>
```

3.2.12. Order item table

```
MySQL 8.0 Command Line Client - Unicode

mysql> create table p_order_item(
->     ItemID varchar(4) not null,
->     ItemPrice float(5),
->     Quantity int(5),
->     OrderID varchar(4),
->     primary key (ItemID,OrderID),
->     foreign key (OrderID) references p_order(OrderID)
-> );
Query OK, 0 rows affected, 1 warning (0.02 sec)

mysql> show create table p_order_item;
+-----+-----+
| Table | Create Table |
+-----+-----+
| p_order_item | CREATE TABLE `p_order_item` (
`ItemID` varchar(4) NOT NULL,
`ItemPrice` float DEFAULT NULL,
`Quantity` int DEFAULT NULL,
`OrderID` varchar(4) NOT NULL,
PRIMARY KEY (`ItemID`, `OrderID`),
KEY `OrderID` (`OrderID`),
CONSTRAINT `p_order_item_ibfk_1` FOREIGN KEY (`OrderID`) REFERENCES `p_order` (`OrderID`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci |
+-----+-----+
1 row in set (0.01 sec)

mysql>
```

3.2.13. Product – Order Relation table

```
MySQL 8.0 Command Line Client - Unicode

mysql> create table ProductOrderRelation(
->     ProductID varchar(4) not null,
->     OrderID varchar(4) not null,
->     primary key (ProductID, OrderID),
->     constraint fk_product foreign key (ProductID) references product(ProductID),
->     constraint fk_order foreign key (OrderID) references p_order(OrderID)
-> );
Query OK, 0 rows affected (0.04 sec)

mysql> show create table ProductOrderRelation;
+-----+-----+
| Table | Create Table |
+-----+-----+
| ProductOrderRelation | CREATE TABLE `productorderrelation` (
`ProductID` varchar(4) NOT NULL,
`OrderID` varchar(4) NOT NULL,
PRIMARY KEY (`ProductID`, `OrderID`),
KEY `fk_order` (`OrderID`),
CONSTRAINT `fk_order` FOREIGN KEY (`OrderID`) REFERENCES `p_order` (`OrderID`),
CONSTRAINT `fk_product` FOREIGN KEY (`ProductID`) REFERENCES `product` (`ProductID`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci |
+-----+-----+
1 row in set (0.01 sec)

mysql>
```

3.2.14. Product – Supplier Relation table

```
MySQL 8.0 Command Line Client - Unicode

mysql> create table ProductSupplierRelation(
    -> ProductID varchar(4) not null,
    -> SupplierID varchar(4) not null,
    -> primary key (ProductID, SupplierID),
    -> constraint fk_product_sup foreign key (ProductID) references product(ProductID),
    -> constraint fk_supplier foreign key (SupplierID) references supplier(SupplierID),
    -> );
Query OK, 0 rows affected (0.02 sec)

mysql> show create table ProductSupplierRelation;
+-----+-----+
| Table          | Create Table
+-----+-----+
| ProductSupplierRelation | CREATE TABLE `productsupplierrelation` (
`ProductID` varchar(4) NOT NULL,
`SupplierID` varchar(4) NOT NULL,
PRIMARY KEY (`ProductID`, `SupplierID`),
KEY `FK_supplier` (`SupplierID`),
CONSTRAINT `fk_product_sup` FOREIGN KEY (`ProductID`) REFERENCES `product`(`ProductID`),
CONSTRAINT `fk_supplier` FOREIGN KEY (`SupplierID`) REFERENCES `supplier`(`SupplierID`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci |
+-----+-----+
1 row in set (0.01 sec)

mysql> -
```

3.3. Add foreign key constraints

```
MySQL 8.0 Command Line Client - Unicode

mysql> alter table inventory
    -> add constraint fk_ProductID
    -> foreign key (ProductID) references product(ProductID);
Query OK, 0 rows affected (0.04 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> alter table inventory
    -> add constraint fk_WarehouseID
    -> foreign key (WarehouseID) references warehouse(WarehouseID);
Query OK, 0 rows affected (0.04 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> alter table shipment
    -> add constraint fk_OrderID
    -> foreign key (OrderID) references p_order(OrderID);
Query OK, 0 rows affected (0.05 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> alter table shipment
    -> add constraint fk_WarehouseID_Shipment
    -> foreign key (WarehouseID) references warehouse(WarehouseID);
Query OK, 0 rows affected (0.05 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql>
```

3.4. Enter data into tables.

3.4.1. Product table

```
MySQL> INSERT INTO product (ProductID, ProductName, UnitPrice, Descrip)
-> VALUES
-> ('P001', 'Air purifier', 12000,'High-quality widget'),
-> ('P002', 'Hotplate', 2500,'Standard widget'),
-> ('P003', 'LED bulb',650, 'Economical widget'),
-> ('P004', 'Stand fan', 8500, 'High-quality widget'),
-> ('P005', 'Calculator', 3000, 'Standard widget'),
-> ('P006', 'Electric kettle', 2600, 'Economical widget');
Query OK, 6 rows affected (0.00 sec)
Records: 6  Duplicates: 0  Warnings: 0

MySQL> select * from product;
+-----+-----+-----+-----+-----+
| ProductID | ProductName | QuantityInStock | UnitPrice | Descrip |
+-----+-----+-----+-----+-----+
| P001 | Air purifier | NULL | 12000 | High-quality widget |
| P002 | Hotplate | NULL | 2500 | Standard widget |
| P003 | LED bulb | NULL | 650 | Economical widget |
| P004 | Stand fan | NULL | 8500 | High-quality widget |
| P005 | Calculator | NULL | 3000 | Standard widget |
| P006 | Electric kettle | NULL | 2600 | Economical widget |
+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

MySQL>
```

3.4.2. Product_Supplier table

```
MySQL> INSERT INTO product_supplier(Supplier, ProductID)
-> VALUES
-> ('S001','P005'),
-> ('S002','P002'),
-> ('S002','P003'),
-> ('S003','P004'),
-> ('S004','P004'),
-> ('S006','P006');
Query OK, 6 rows affected (0.01 sec)
Records: 6  Duplicates: 0  Warnings: 0

MySQL> select * from product_supplier;
+-----+-----+
| ProductID | Supplier |
+-----+-----+
| P002 | S002 |
| P003 | S002 |
| P004 | S003 |
| P004 | S004 |
| P005 | S001 |
| P006 | S006 |
+-----+-----+
6 rows in set (0.00 sec)

MySQL> -
```

3.4.3. Supplier table

```
MySQL 8.0 Command Line Client - Unicode

mysql> INSERT INTO supplier (SupplierID, SupplierName, SupplierEmail, SupplierCity, SupplierProvince, supplierCountry)
-> VALUES
-> ('S001', 'Argen', 'argensl@gmail.com', 'Colombo', 'Western', 'Sri Lanka'),
-> ('S002', 'Rapta', 'raptaj2@gmail.com', 'Tenha', 'Osaka', 'Japan'),
-> ('S003', 'Sanota', 'sanotac3@gmail.com', 'Beijing', 'Alpha', 'China'),
-> ('S004', 'Maroin', 'maroinc4@gmail.com', 'Shenya', 'Shangai', 'China'),
-> ('S005', 'Septco', 'septcos15@gmail.com', 'Negambo', 'Wayamba', 'Sri Lanka'),
-> ('S006', 'Boiston', 'boistons16@gmail.com', 'Colombo', 'Western', 'Sri Lanka');
Query OK, 6 rows affected (0.00 sec)
Records: 6  Duplicates: 0  Warnings: 0

mysql> select * from supplier;
+-----+-----+-----+-----+-----+-----+
| SupplierID | SupplierName | SupplierEmail | SupplierCity | SupplierProvince | supplierCountry |
+-----+-----+-----+-----+-----+-----+
| S001 | Argen | argensl@gmail.com | Colombo | Western | Sri Lanka |
| S002 | Rapta | raptaj2@gmail.com | Tenha | Osaka | Japan |
| S003 | Sanota | sanotac3@gmail.com | Beijing | Alpha | China |
| S004 | Maroin | maroinc4@gmail.com | Shenya | Shangai | China |
| S005 | Septco | septcos15@gmail.com | Negambo | Wayamba | Sri Lanka |
| S006 | Boiston | boistons16@gmail.com | Colombo | Western | Sri Lanka |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>
```

3.4.4. Supplier_Telephone table

```
MySQL 8.0 Command Line Client - Unicode

mysql> INSERT INTO supplier_telephone(SupplierID, Telephone)
-> VALUES
-> ('S002','+344112'),
-> ('S002','+344345'),
-> ('S003','+312789'),
-> ('S004','+312111'),
-> ('S005','+112345'),
-> ('S005','+114567');
Query OK, 6 rows affected (0.01 sec)
Records: 6  Duplicates: 0  Warnings: 0

mysql> select * from supplier_telephone;
+-----+-----+
| SupplierID | Telephone |
+-----+-----+
| S002 | 344112 |
| S002 | 344345 |
| S003 | 312789 |
| S004 | 312111 |
| S005 | 112345 |
| S005 | 114567 |
+-----+-----+
6 rows in set (0.00 sec)

mysql>
```

3.4.5. Supplier_paymentTerm table

```
MySQL 8.0 Command Line Client - Unicode

mysql> INSERT INTO supplier_paymentTerms(SupplierID,PaymentTerms)
-> VALUES
-> ('S001','Cheque'),
-> ('S002','Paypal'),
-> ('S003','Paypal'),
-> ('S003','Credit card'),
-> ('S004','Paypal'),
-> ('S006','Cash');
Query OK, 6 rows affected (0.01 sec)
Records: 6 Duplicates: 0 Warnings: 0

mysql> select * from supplier_paymentTerms;
+-----+-----+
| SupplierID | PaymentTerms |
+-----+-----+
| S001        | Cheque      |
| S002        | Paypal      |
| S003        | Credit card |
| S003        | Paypal      |
| S004        | Paypal      |
| S006        | Cash        |
+-----+-----+
6 rows in set (0.00 sec)

mysql>
```

3.4.6. Order table

```
MySQL 8.0 Command Line Client - Unicode

mysql> INSERT INTO p_order (OrderID, ProductID, CustomerID, ParentOrderID, OrderDate, DeliveryDate, OrderStatus, SubOrderID)
-> VALUES
-> ('P001', 'C001', 'C001', 'PO1', '2023-09-10', '2023-09-15', 1, '0001'),
-> ('P002', 'C002', 'C002', 'PO2', '2023-09-11', '2023-09-16', 1, '0002'),
-> ('P003', 'C003', 'C001', 'PO3', '2023-09-12', '2023-09-17', 1, '0003'),
-> ('P004', 'C004', 'C003', 'PO4', '2023-09-13', '2023-09-18', 1, '0004'),
-> ('P005', 'C005', 'C004', 'PO5', '2023-09-14', '2023-09-19', 1, '0005'),
-> ('P006', 'C006', 'C002', 'PO6', '2023-09-15', '2023-09-20', 1, '0006');
Query OK, 6 rows affected (0.01 sec)
Records: 6 Duplicates: 0 Warnings: 0

mysql> select * from p_order;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| OrderID | ProductID | CustomerID | ParentorderID | SubOrderID | OrderDate | DeliveryDate | OrderStatus | TotalAmount |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 0001    | P001     | C001       | PO1          | 0001      | 2023-09-10 | 2023-09-15 | 1           | NULL        |
| 0002    | P002     | C002       | PO2          | 0002      | 2023-09-11 | 2023-09-16 | 1           | NULL        |
| 0003    | P003     | C001       | PO3          | 0003      | 2023-09-12 | 2023-09-17 | 1           | NULL        |
| 0004    | P004     | C003       | PO4          | 0004      | 2023-09-13 | 2023-09-18 | 1           | NULL        |
| 0005    | P005     | C004       | PO5          | 0005      | 2023-09-14 | 2023-09-19 | 1           | NULL        |
| 0006    | P006     | C002       | PO6          | 0006      | 2023-09-15 | 2023-09-20 | 1           | NULL        |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>
```

3.4.7. Warehouse table

```
MySQL 8.0 Command Line Client - Unicode
mysql> INSERT INTO warehouse (WarehouseID, WarehouseName, Capacity, ParentWareHouseID, SubwareHouseID, WarehouseCity, WarehouseProvince, WarehouseCountry)
-> VALUES
-> ('W001', 'Warehouse1', 5000, NULL, NULL, 'Benito', 'Shangai', 'China'),
-> ('W002', 'Warehouse2', 3000, NULL, NULL, 'Tesaki', 'Osaka', 'Japan'),
-> ('W003', 'Warehouse3', 7000, NULL, NULL, 'Colombo', 'Western', 'Sri Lanka'),
-> ('W004', 'SubWarehouse1', 2000, 'W001', NULL, 'Galle', 'Southern', 'Sri Lanka'),
-> ('W005', 'SubWarehouse2', 1500, 'W002', NULL, 'Kandy', 'Central', 'Sri Lanka'),
-> ('W006', 'SubWarehouse3', 2500, 'W003', NULL, 'Negambo', 'Wayamba', 'Sri Lanka');
Query OK, 6 rows affected (0.01 sec)
Records: 6  Duplicates: 0  Warnings: 0

mysql> select * from warehouse;
+-----+-----+-----+-----+-----+-----+-----+-----+
| WarehouseID | WarehouseName | Capacity | ParentwareHouseID | SubwareHouseID | WarehouseCity | WarehouseProvince | WarehouseCountry |
+-----+-----+-----+-----+-----+-----+-----+-----+
| W001 | Warehouse1 | 5000 | NULL | NULL | Benito | Shangai | China |
| W002 | Warehouse2 | 3000 | NULL | NULL | Tesaki | Osaka | Japan |
| W003 | Warehouse3 | 7000 | NULL | NULL | Colombo | Western | Sri Lanka |
| W004 | SubWarehouse1 | 2000 | W001 | NULL | Galle | Southern | Sri Lanka |
| W005 | SubWarehouse2 | 1500 | W002 | NULL | Kandy | Central | Sri Lanka |
| W006 | SubWarehouse3 | 2500 | W003 | NULL | Negambo | Wayamba | Sri Lanka |
+-----+-----+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>
```

3.4.8. Inventory table

```
MySQL 8.0 Command Line Client - Unicode
mysql> INSERT INTO inventory (ProductID, WarehouseID, RecorderLevel, LastStockDate, QuantityInStock)
-> VALUES
-> ('P001', 'W001', 'Low', '2023-09-10', 100),
-> ('P002', 'W001', 'Low', '2023-09-10', 50),
-> ('P003', 'W002', 'Medium', '2023-09-10', 75),
-> ('P004', 'W001', 'High', '2023-09-10', 120),
-> ('P005', 'W003', 'Low', '2023-09-10', 30),
-> ('P006', 'W005', 'Medium', '2023-09-10', 60);
Query OK, 6 rows affected (0.01 sec)
Records: 6  Duplicates: 0  Warnings: 0

mysql> select * from inventory;
+-----+-----+-----+-----+-----+
| ProductID | WarehouseID | RecorderLevel | LastStockDate | QuantityInStock |
+-----+-----+-----+-----+-----+
| P001 | W001 | Low | 2023-09-10 | 100 |
| P002 | W001 | Low | 2023-09-10 | 50 |
| P003 | W002 | Medium | 2023-09-10 | 75 |
| P004 | W001 | High | 2023-09-10 | 120 |
| P005 | W003 | Low | 2023-09-10 | 30 |
| P006 | W005 | Medium | 2023-09-10 | 60 |
+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>
```

3.4.9. Shipment table

```
MySQL 8.0 Command Line Client - Unicode

mysql> INSERT INTO shipment (ShipmentID, OrderID, WarehouseID, TrackingNumber, ShippingDate, Shippingstreet,ShippingCity, ShippingProvince, ShippingCountry)
--> VALUES
--> ('SH1', '0001', 'W003', '1234567890', '2023-09-14', 'Galle road', 'Matara', 'Sothern', 'Sri Lanka'),
--> ('SH2', '0002', 'W004', '9876543210', '2023-09-15', 'Magalla road', 'Galle', 'Southern', 'Sri Lanka'),
--> ('SH3', '0003', 'W003', '4567890123', '2023-09-16', 'Kallidasa road', 'Kaduwela', 'Western', 'Sri Lanka'),
--> ('SH4', '0004', 'W003', '7890123456', '2023-09-17', 'Main street', 'Horana', 'Western', 'Sri Lanka'),
--> ('SH5', '0005', 'W005', '3456789012', '2023-09-18', 'DS street', 'Kotamale', 'Central', 'Sri Lanka'),
--> ('SH6', '0006', 'W006', '9012345678', '2023-09-19', 'JS street', 'Naththandiya', 'Wayamba', 'Sri Lanka');
Query OK, 6 rows affected (0.00 sec)
Records: 6  Duplicates: 0  Warnings: 0

mysql> select * from shipment;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| ShipmentID | OrderID | WarehouseID | TrackingNumber | ShippingDate | Shippingstreet | ShippingCity | ShippingProvince | shippingcountry |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| SH1 | 0001 | W003 | 1234567890 | 2023-09-14 | Galle road | Matara | Sothern | Sri Lanka |
| SH2 | 0002 | W004 | 9876543210 | 2023-09-15 | Magalla road | Galle | Southern | Sri Lanka |
| SH3 | 0003 | W003 | 4567890123 | 2023-09-16 | Kallidasa road | Kaduwela | Western | Sri Lanka |
| SH4 | 0004 | W003 | 7890123456 | 2023-09-17 | Main street | Horana | Western | Sri Lanka |
| SH5 | 0005 | W005 | 3456789012 | 2023-09-18 | DS street | Kotamale | Central | Sri Lanka |
| SH6 | 0006 | W006 | 9012345678 | 2023-09-19 | JS street | Naththandiya | Wayamba | Sri Lanka |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> -
```

3.4.10 Shipping method table

```
MySQL 8.0 Command Line Client - Unicode

mysql> INSERT INTO shipping_method (ShipmentID,ShippingMethod)
--> VALUES
--> ('SH1','Rail D.'),
--> ('SH2','Self D.')
--> ('SH3','Self D.')
--> ('SH4','3rd P.D.')
--> ('SH5','3rd P.D.')
--> ('SH6','Rail D.');
Query OK, 6 rows affected (0.01 sec)
Records: 6  Duplicates: 0  Warnings: 0

mysql> select * from shipping_method;
+-----+-----+
| ShipmentID | ShippingMethod |
+-----+-----+
| SH1 | Rail D. |
| SH2 | Self D. |
| SH3 | Self D. |
| SH4 | 3rd P.D. |
| SH5 | 3rd P.D. |
| SH6 | Rail D. |
+-----+-----+
6 rows in set (0.00 sec)

mysql> -
```

3.4.11. Product attribute table

```
MySQL 8.0 Command Line Client - Unicode

mysql> INSERT INTO product_attribute (ProductID, AttributeID,AttributeName,AttributeValue)
-> VALUES
-> ('P001', 'A002', 'Size','Medium'),
-> ('P002', 'A001', 'Colour', 'Black'),
-> ('P003', 'A002', 'size', 'General'),
-> ('P004', 'A001', 'Colour', 'Gray'),
-> ('P005', 'A003', 'Version', 'fx-991Es'),
-> ('P006', 'A004', 'Capacity', '1000 ml');
Query OK, 6 rows affected (0.01 sec)
Records: 6  Duplicates: 0  Warnings: 0

mysql> select * from product_attribute;
+-----+-----+-----+-----+
| AttributeID | AttributeName | AttributeValue | ProductID |
+-----+-----+-----+-----+
| A001 | Colour | Black | P002 |
| A001 | Colour | Gray | P004 |
| A002 | Size | Medium | P001 |
| A002 | Size | General | P003 |
| A003 | Version | fx-991Es | P005 |
| A004 | Capacity | 1000 ml | P006 |
+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>
```

3.4.12. Order item table

```
MySQL 8.0 Command Line Client - Unicode

mysql> INSERT INTO p_order_item(OrderID, ItemID, ItemPrice, Quantity)
-> VALUES
-> ('0001', 'P001', 12000,1),
-> ('0002', 'P002', 2500,1),
-> ('0003', 'P003', 650,5),
-> ('0004', 'P004', 8500,1),
-> ('0005', 'P005', 3000,20),
-> ('0006', 'P006', 2600,1);
Query OK, 6 rows affected (0.01 sec)
Records: 6  Duplicates: 0  Warnings: 0

mysql> select * from p_order_item;
+-----+-----+-----+-----+
| ItemID | ItemPrice | Quantity | OrderID |
+-----+-----+-----+-----+
| P001 | 12000 | 1 | 0001 |
| P002 | 2500 | 1 | 0002 |
| P003 | 650 | 5 | 0003 |
| P004 | 8500 | 1 | 0004 |
| P005 | 3000 | 20 | 0005 |
| P006 | 2600 | 1 | 0006 |
+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>
```

3.4.13. Product-order relation table

```
MySQL 8.0 Command Line Client - Unicode

mysql> INSERT INTO ProductOrderRelation(ProductID,OrderID)
-> VALUES
-> ('P001','0001'),
-> ('P002','0002'),
-> ('P003','0003'),
-> ('P004','0004'),
-> ('P005','0005'),
-> ('P006','0006');
Query OK, 6 rows affected (0.01 sec)
Records: 6  Duplicates: 0  Warnings: 0

mysql> select * from ProductOrderRelation;
+-----+-----+
| ProductID | OrderID |
+-----+-----+
| P001      | 0001   |
| P002      | 0002   |
| P003      | 0003   |
| P004      | 0004   |
| P005      | 0005   |
| P006      | 0006   |
+-----+-----+
6 rows in set (0.00 sec)

mysql> -
```



3.4.14. Product-supplier relation table

```
MySQL 8.0 Command Line Client - Unicode

mysql> INSERT INTO ProductSupplierRelation (ProductID,SupplierID)
-> VALUES
-> ('P001','S005'),
-> ('P002','S002'),
-> ('P003','S002'),
-> ('P004','S003'),
-> ('P004','S004'),
-> ('P005','S001'),
-> ('P006','S006');
Query OK, 7 rows affected (0.00 sec)
Records: 7  Duplicates: 0  Warnings: 0

mysql> select * from ProductSupplierRelation;
+-----+-----+
| ProductID | SupplierID |
+-----+-----+
| P005      | S001    |
| P002      | S002    |
| P003      | S002    |
| P004      | S003    |
| P004      | S004    |
| P001      | S005    |
| P006      | S006    |
+-----+-----+
7 rows in set (0.00 sec)

mysql> -
```



3.5. Updating Tables

3.5.1. Product Table

```
MySQL 8.0 Command Line Client

mysql> select * from product;
+-----+-----+-----+-----+-----+
| ProductID | ProductName | QuantityInStock | UnitPrice | Descrip |
+-----+-----+-----+-----+-----+
| P001 | Air purifier | NULL | 12000 | High-quality widget |
| P002 | Hotplate | NULL | 2500 | Standard widget |
| P003 | LED bulb | NULL | 650 | Economical widget |
| P004 | Stand fan | NULL | 8500 | High-quality widget |
| P005 | Calculator | NULL | 3000 | Standard widget |
| P006 | Electric kettle | NULL | 2600 | Economical widget |
+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> update product set UnitPrice = 10500 where ProductID = 'P001';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> update product set Descrip = 'High-quality widget' where ProductID = 'P006';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> select * from product;
+-----+-----+-----+-----+-----+
| ProductID | ProductName | QuantityInStock | UnitPrice | Descrip |
+-----+-----+-----+-----+-----+
| P001 | Air purifier | NULL | 10500 | High-quality widget |
| P002 | Hotplate | NULL | 2500 | Standard widget |
| P003 | LED bulb | NULL | 650 | Economical widget |
| P004 | Stand fan | NULL | 8500 | High-quality widget |
| P005 | Calculator | NULL | 3000 | Standard widget |
| P006 | Electric kettle | NULL | 2600 | High-quality widget |
+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>
```

3.5.2. Product_supplier Table

```
MySQL 8.0 Command Line Client

mysql> select * from product_supplier;
+-----+-----+
| ProductID | Supplier |
+-----+-----+
| P002 | S002 |
| P003 | S002 |
| P004 | S003 |
| P004 | S004 |
| P005 | S001 |
| P006 | S006 |
+-----+-----+
6 rows in set (0.00 sec)

mysql> update product_supplier set Supplier = 'S004' where ProductID = 'P005';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> update product_supplier set Supplier = 'S006' where ProductID = 'P002';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> select * from product_supplier;
+-----+-----+
| ProductID | Supplier |
+-----+-----+
| P002 | S006 |
| P003 | S002 |
| P004 | S003 |
| P004 | S004 |
| P005 | S004 |
| P006 | S006 |
+-----+-----+
6 rows in set (0.00 sec)

mysql>
```

3.5.3. Supplier Table

```
MySQL 8.0 Command Line Client

mysql> select * from supplier;
+-----+-----+-----+-----+-----+
| SupplierID | SupplierName | SupplierEmail | SupplierCity | SupplierProvince | SupplierCountry |
+-----+-----+-----+-----+-----+
| S001 | Argen | argensl@gmail.com | Colombo | Western | Sri Lanka
| S002 | RaptA | raptaj2@gmail.com | Tenha | Osaka | Japan
| S003 | Sanota | sanotac@gmail.com | Beijing | Alpha | China
| S004 | Maroin | maroinc@gmail.com | ShenyA | Shanghai | China
| S005 | Septco | septcos1@gmail.com | Negambo | Wayamba | Sri Lanka
| S006 | Boiston | boistons1@gmail.com | Colombo | Western | Sri Lanka
+-----+-----+-----+-----+-----+
6 rows in set (0.01 sec)

mysql> update supplier set SupplierProvince = 'Anita' where SupplierID = 'S003';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> update supplier set SupplierName = 'Belton' where SupplierID = 'S006';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> select * from supplier;
+-----+-----+-----+-----+-----+
| SupplierID | SupplierName | SupplierEmail | SupplierCity | SupplierProvince | SupplierCountry |
+-----+-----+-----+-----+-----+
| S001 | Argen | argensl@gmail.com | Colombo | Western | Sri Lanka
| S002 | RaptA | raptaj2@gmail.com | Tenha | Osaka | Japan
| S003 | Sanota | sanotac@gmail.com | Beijing | Anita | China
| S004 | Maroin | maroinc@gmail.com | ShenyA | Shanghai | China
| S005 | Septco | septcos1@gmail.com | Negambo | Wayamba | Sri Lanka
| S006 | Belton | boistons1@gmail.com | Colombo | Western | Sri Lanka
+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>
```

3.5.4. Supplier_telephone Table

```
MySQL 8.0 Command Line Client

+-----+-----+
| SupplierID | Telephone |
+-----+-----+
| S002 | 344112 |
| S002 | 344345 |
| S003 | 312789 |
| S004 | 312111 |
| S005 | 112345 |
| S005 | 114567 |
+-----+-----+
6 rows in set (0.00 sec)

mysql> update supplier_telephone set Telephone = '344444' where SupplierID = 'S004';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> update supplier_telephone set Telephone = '319990' where SupplierID = 'S003';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> select * from supplier_telephone;
+-----+-----+
| SupplierID | Telephone |
+-----+-----+
| S002 | 344112 |
| S002 | 344345 |
| S003 | 319990 |
| S004 | 344444 |
| S005 | 112345 |
| S005 | 114567 |
+-----+-----+
6 rows in set (0.00 sec)

mysql>
```

3.5.5. Supplier_paymentTerm Table

```
MySQL 8.0 Command Line Client
mysql> select * from supplier_paymentTerms;
+-----+-----+
| SupplierID | PaymentTerms |
+-----+-----+
| S001       | Cheque      |
| S002       | Paypal      |
| S003       | Credit card |
| S003       | Paypal      |
| S004       | Paypal      |
| S006       | Cash        |
+-----+-----+
6 rows in set (0.00 sec)

mysql> update supplier_paymentTerms set PaymentTerms = 'Cash' where SupplierID = 'S002';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> update supplier_paymentTerms set PaymentTerms = 'Paypal' where SupplierID = 'S006';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> select * from supplier_paymentTerms;
+-----+-----+
| SupplierID | PaymentTerms |
+-----+-----+
| S001       | Cheque      |
| S002       | Cash        |
| S003       | Credit card |
| S003       | Paypal      |
| S004       | Paypal      |
| S006       | Paypal      |
+-----+-----+
6 rows in set (0.00 sec)

mysql>
```

3.5.6. Order Table

```
MySQL 8.0 Command Line Client
mysql> select * from p_order;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| OrderID | ProductID | CustomerID | ParentOrderID | SubOrderID | OrderDate | DeliveryDate | OrderStatus | TotalAmount |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 0001   | P001     | C001     |          0   | 0001     | 2023-09-10 | 2023-09-15 | 1           | NULL        |
| 0002   | P002     | C002     |          0   | 0002     | 2023-09-11 | 2023-09-16 | 1           | NULL        |
| 0003   | P003     | C001     |          0   | 0003     | 2023-09-12 | 2023-09-17 | 1           | NULL        |
| 0004   | P004     | C003     |          0   | 0004     | 2023-09-13 | 2023-09-18 | 1           | NULL        |
| 0005   | P005     | C004     |          0   | 0005     | 2023-09-14 | 2023-09-19 | 1           | NULL        |
| 0006   | P006     | C002     |          0   | 0006     | 2023-09-15 | 2023-09-20 | 1           | NULL        |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
6 rows in set (0.02 sec)

mysql> update p_order set CustomerID = 'C006' where OrderID = '0005';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> update p_order set OrderStatus = 0 where OrderID = '0003';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> select * from p_order;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| OrderID | ProductID | CustomerID | ParentOrderID | SubOrderID | OrderDate | DeliveryDate | OrderStatus | TotalAmount |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 0001   | P001     | C001     |          0   | 0001     | 2023-09-10 | 2023-09-15 | 1           | NULL        |
| 0002   | P002     | C002     |          0   | 0002     | 2023-09-11 | 2023-09-16 | 1           | NULL        |
| 0003   | P003     | C001     |          0   | 0003     | 2023-09-12 | 2023-09-17 | 0           | NULL        |
| 0004   | P004     | C003     |          0   | 0004     | 2023-09-13 | 2023-09-18 | 1           | NULL        |
| 0005   | P005     | C006     |          0   | 0005     | 2023-09-14 | 2023-09-19 | 1           | NULL        |
| 0006   | P006     | C002     |          0   | 0006     | 2023-09-15 | 2023-09-20 | 1           | NULL        |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>
```

3.5.7. Inventory Table

```
MySQL 8.0 Command Line Client
mysql> select * from inventory;
+-----+-----+-----+-----+
| ProductID | WarehouseID | RecorderLevel | LastStockDate | QuantityInStock |
+-----+-----+-----+-----+
| P001 | W001 | Low | 2023-09-10 | 100 |
| P002 | W001 | Low | 2023-09-10 | 50 |
| P003 | W002 | Medium | 2023-09-10 | 75 |
| P004 | W001 | High | 2023-09-10 | 120 |
| P005 | W003 | Low | 2023-09-10 | 30 |
| P006 | W005 | Medium | 2023-09-10 | 60 |
+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> update inventory set RecorderLevel = 'Medium' where ProductID = 'P002';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> update inventory set QuantityInStock = 50 where ProductID = 'P005';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> select * from inventory;
+-----+-----+-----+-----+
| ProductID | WarehouseID | RecorderLevel | LastStockDate | QuantityInStock |
+-----+-----+-----+-----+
| P001 | W001 | Low | 2023-09-10 | 100 |
| P002 | W001 | Medium | 2023-09-10 | 50 |
| P003 | W002 | Medium | 2023-09-10 | 75 |
| P004 | W001 | High | 2023-09-10 | 120 |
| P005 | W003 | Low | 2023-09-10 | 50 |
| P006 | W005 | Medium | 2023-09-10 | 60 |
+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>
```

3.5.8. Warehouse Table

```
MySQL 8.0 Command Line Client
mysql> select * from warehouse;
+-----+-----+-----+-----+-----+-----+-----+-----+
| WarehouseID | WarehouseName | Capacity | ParentWarehouseID | SubWarehouseID | WarehouseCity | WarehouseProvince | WarehouseCountry |
+-----+-----+-----+-----+-----+-----+-----+-----+
| W001 | Warehouse1 | 5000 | NULL | NULL | Benito | Shanghai | China |
| W002 | Warehouse2 | 3000 | NULL | NULL | Tesaki | Osaka | Japan |
| W003 | Warehouse3 | 7000 | NULL | NULL | Colombo | Western | Sri Lanka |
| W004 | SubWarehouse1 | 2000 | W001 | NULL | Galle | Southern | Sri Lanka |
| W005 | SubWarehouse2 | 1500 | W002 | NULL | Kandy | Central | Sri Lanka |
| W006 | SubWarehouse3 | 2500 | W003 | NULL | Negombo | Wayamba | Sri Lanka |
+-----+-----+-----+-----+-----+-----+-----+-----+
6 rows in set (0.02 sec)

mysql> update warehouse set Capacity = 6000 where WarehouseID = 'W001';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> update warehouse set WarehouseCity = 'Matara' where WarehouseID = 'W004';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> select * from warehouse;
+-----+-----+-----+-----+-----+-----+-----+-----+
| WarehouseID | WarehouseName | Capacity | ParentWarehouseID | SubWarehouseID | WarehouseCity | WarehouseProvince | WarehouseCountry |
+-----+-----+-----+-----+-----+-----+-----+-----+
| W001 | Warehouse1 | 6000 | NULL | NULL | Benito | Shanghai | China |
| W002 | Warehouse2 | 3000 | NULL | NULL | Tesaki | Osaka | Japan |
| W003 | Warehouse3 | 7000 | NULL | NULL | Colombo | Western | Sri Lanka |
| W004 | SubWarehouse1 | 2000 | W001 | NULL | Matara | Southern | Sri Lanka |
| W005 | SubWarehouse2 | 1500 | W002 | NULL | Kandy | Central | Sri Lanka |
| W006 | SubWarehouse3 | 2500 | W003 | NULL | Negombo | Wayamba | Sri Lanka |
+-----+-----+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>
```

3.5.9. Shipment Table

```
MySQL 8.0 Command Line Client

mysql> select * from shipment;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| ShipmentID | OrderID | WarehouseID | TrackingNumber | ShippingDate | Shippingstreet | ShippingCity | ShippingProvince | ShippingCountry |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| SH1 | 0001 | W003 | 1234567890 | 2023-09-14 | Galle road | Matara | Sothern | Sri Lanka
| SH2 | 0002 | W004 | 9876543210 | 2023-09-15 | Magalla road | Galle | Southern | Sri Lanka
| SH3 | 0003 | W003 | 4567890123 | 2023-09-16 | Kalidasa road | Kaduwela | Western | Sri Lanka
| SH4 | 0004 | W003 | 7890123456 | 2023-09-17 | Main street | Horana | Western | Sri Lanka
| SH5 | 0005 | W005 | 3456789012 | 2023-09-18 | DS street | Kotamale | Central | Sri Lanka
| SH6 | 0006 | W006 | 9012345678 | 2023-09-19 | JS street | Naththandiya | Wayamba | Sri Lanka
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
6 rows in set (0.01 sec)

mysql> update shipment set WarehouseID = 'W001' where shipmentID = 'SH1';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> update shipment set ShippingCity = 'Gampaha' where shipmentID = 'SH3';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> select * from shipment;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| ShipmentID | OrderID | WarehouseID | TrackingNumber | ShippingDate | Shippingstreet | ShippingCity | ShippingProvince | ShippingCountry |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| SH1 | 0001 | W001 | 1234567890 | 2023-09-14 | Galle road | Matara | Sothern | Sri Lanka
| SH2 | 0002 | W004 | 9876543210 | 2023-09-15 | Magalla road | Galle | Southern | Sri Lanka
| SH3 | 0003 | W003 | 4567890123 | 2023-09-16 | Kalidasa road | Gampaha | Western | Sri Lanka
| SH4 | 0004 | W003 | 7890123456 | 2023-09-17 | Main street | Horana | Western | Sri Lanka
| SH5 | 0005 | W005 | 3456789012 | 2023-09-18 | DS street | Kotamale | Central | Sri Lanka
| SH6 | 0006 | W006 | 9012345678 | 2023-09-19 | JS street | Naththandiya | Wayamba | Sri Lanka
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>
```

3.5.10. Shipping Method Table

```
MySQL 8.0 Command Line Client

mysql> select * from shipping_method;
+-----+-----+
| ShipmentID | ShippingMethod |
+-----+-----+
| SH1 | Rail D. |
| SH2 | Self D. |
| SH3 | Self D. |
| SH4 | 3rd P.D. |
| SH5 | 3rd P.D. |
| SH6 | Rail D. |
+-----+-----+
6 rows in set (0.01 sec)

mysql> update shipping_method set ShippingMethod = '3rd P.D.' where shipmentID = 'SH1';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> update shipping_method set ShippingMethod = 'Rail D.' where shipmentID = 'SH5';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> select * from shipping_method;
+-----+-----+
| ShipmentID | ShippingMethod |
+-----+-----+
| SH1 | 3rd P.D. |
| SH2 | Self D. |
| SH3 | Self D. |
| SH4 | 3rd P.D. |
| SH5 | Rail D. |
| SH6 | Rail D. |
+-----+-----+
6 rows in set (0.00 sec)

mysql>
```

3.5.11. Product Attribute Table

```
MySQL 8.0 Command Line Client

mysql> select * from product_attribute;
+-----+-----+-----+-----+
| AttributeID | AttributeName | AttributeValue | ProductID |
+-----+-----+-----+-----+
| A001 | Colour | Black | P002 |
| A001 | Colour | Gray | P004 |
| A002 | Size | Medium | P001 |
| A002 | Size | General | P003 |
| A003 | Version | fx-991Es | P005 |
| A004 | Capacity | 1000 ml | P006 |
+-----+-----+-----+-----+
6 rows in set (0.01 sec)

mysql> update product_attribute set AttributeValue = 'White' where ProductID = 'P002';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> update product_attribute set AttributeName = 'Edition' where AttributeID = 'A003';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> select * from product_attribute;
+-----+-----+-----+-----+
| AttributeID | AttributeName | AttributeValue | ProductID |
+-----+-----+-----+-----+
| A001 | Colour | White | P002 |
| A001 | Colour | Gray | P004 |
| A002 | Size | Medium | P001 |
| A002 | Size | General | P003 |
| A003 | Edition | fx-991Es | P005 |
| A004 | Capacity | 1000 ml | P006 |
+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>
```

3.5.12. Order Item Table

```
MySQL 8.0 Command Line Client

mysql> select * from p_order_item;
+-----+-----+-----+-----+
| ItemID | ItemPrice | Quantity | OrderID |
+-----+-----+-----+-----+
| P001 | 12000 | 1 | 0001 |
| P002 | 2500 | 1 | 0002 |
| P003 | 650 | 5 | 0003 |
| P004 | 8500 | 1 | 0004 |
| P005 | 3000 | 20 | 0005 |
| P006 | 2600 | 1 | 0006 |
+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> update p_order_item set Quantity = 2 where OrderID = '0002';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> update p_order_item set ItemPrice = 3500 where OrderID = '0005';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> select * from p_order_item;
+-----+-----+-----+-----+
| ItemID | ItemPrice | Quantity | OrderID |
+-----+-----+-----+-----+
| P001 | 12000 | 1 | 0001 |
| P002 | 2500 | 2 | 0002 |
| P003 | 650 | 5 | 0003 |
| P004 | 8500 | 1 | 0004 |
| P005 | 3500 | 20 | 0005 |
| P006 | 2600 | 1 | 0006 |
+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>
```

3.6. Deleting from Tables

3.6.1. Inventory Table

```
MySQL 8.0 Command Line Client

mysql> select * from inventory;
+-----+-----+-----+-----+-----+
| ProductID | WarehouseID | RecorderLevel | LastStockDate | QuantityInStock |
+-----+-----+-----+-----+-----+
| P001 | W001 | Low | 2023-09-10 | 100 |
| P002 | W001 | Medium | 2023-09-10 | 50 |
| P003 | W002 | Medium | 2023-09-10 | 75 |
| P004 | W001 | High | 2023-09-10 | 120 |
| P005 | W003 | Low | 2023-09-10 | 50 |
| P006 | W005 | Medium | 2023-09-10 | 60 |
+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> DELETE FROM inventory WHERE ProductID = 'P001';
Query OK, 1 row affected (0.00 sec)

mysql> select * from inventory;
+-----+-----+-----+-----+-----+
| ProductID | WarehouseID | RecorderLevel | LastStockDate | QuantityInStock |
+-----+-----+-----+-----+-----+
| P002 | W001 | Medium | 2023-09-10 | 50 |
| P003 | W002 | Medium | 2023-09-10 | 75 |
| P004 | W001 | High | 2023-09-10 | 120 |
| P005 | W003 | Low | 2023-09-10 | 50 |
| P006 | W005 | Medium | 2023-09-10 | 60 |
+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql>
```

3.6.2. Product-order relation table

```
MySQL 8.0 Command Line Client

mysql> select * from productorderrelation;
+-----+-----+
| ProductID | OrderID |
+-----+-----+
| P001 | 0001 |
| P002 | 0002 |
| P003 | 0003 |
| P004 | 0004 |
| P005 | 0005 |
| P006 | 0006 |
+-----+-----+
6 rows in set (0.00 sec)

mysql> DELETE FROM productorderrelation WHERE ProductID = 'P001';
Query OK, 1 row affected (0.01 sec)

mysql> select * from productorderrelation;
+-----+-----+
| ProductID | OrderID |
+-----+-----+
| P002 | 0002 |
| P003 | 0003 |
| P004 | 0004 |
| P005 | 0005 |
| P006 | 0006 |
+-----+-----+
5 rows in set (0.00 sec)

mysql>
```

3.6.3. Product-supplier relation table

```
MySQL 8.0 Command Line Client
mysql> select * from productsupplierrelation;
+-----+-----+
| ProductID | SupplierID |
+-----+-----+
| P005      | S001      |
| P002      | S002      |
| P003      | S002      |
| P004      | S003      |
| P004      | S004      |
| P001      | S005      |
| P006      | S006      |
+-----+-----+
7 rows in set (0.01 sec)

mysql> DELETE FROM productsupplierrelation WHERE ProductID = 'P001';
Query OK, 1 row affected (0.01 sec)

mysql> select * from productsupplierrelation;
+-----+-----+
| ProductID | SupplierID |
+-----+-----+
| P005      | S001      |
| P002      | S002      |
| P003      | S002      |
| P004      | S003      |
| P004      | S004      |
| P006      | S006      |
+-----+-----+
6 rows in set (0.00 sec)

mysql>
```

```
MySQL 8.0 Command Line Client
mysql> select * from productsupplierrelation;
+-----+-----+
| ProductID | SupplierID |
+-----+-----+
| P005      | S001      |
| P002      | S002      |
| P003      | S002      |
| P004      | S003      |
| P004      | S004      |
| P006      | S006      |
+-----+-----+
6 rows in set (0.00 sec)

mysql> DELETE FROM productsupplierrelation WHERE SupplierID = 'S001';
Query OK, 1 row affected (0.01 sec)

mysql> select * from productsupplierrelation;
+-----+-----+
| ProductID | SupplierID |
+-----+-----+
| P002      | S002      |
| P003      | S002      |
| P004      | S003      |
| P004      | S004      |
| P006      | S006      |
+-----+-----+
5 rows in set (0.00 sec)

mysql>
```

3.6.4. Product Attribute Table

```
MySQL 8.0 Command Line Client

mysql> select * from product_attribute;
+-----+-----+-----+-----+
| AttributeID | AttributeName | AttributeValue | ProductID |
+-----+-----+-----+-----+
| A001 | Colour | White | P002 |
| A001 | Colour | Gray | P004 |
| A002 | Size | Medium | P001 |
| A002 | Size | General | P003 |
| A003 | Edition | fx-991Es | P005 |
| A004 | Capacity | 1000 ml | P006 |
+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> DELETE FROM product_attribute WHERE ProductID = 'P001';
Query OK, 1 row affected (0.01 sec)

mysql> select * from product_attribute;
+-----+-----+-----+-----+
| AttributeID | AttributeName | AttributeValue | ProductID |
+-----+-----+-----+-----+
| A001 | Colour | White | P002 |
| A001 | Colour | Gray | P004 |
| A002 | Size | Medium | P001 |
| A002 | Size | General | P003 |
| A003 | Edition | fx-991Es | P005 |
| A004 | Capacity | 1000 ml | P006 |
+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql>
```

3.6.5. Product Table

```
MySQL 8.0 Command Line Client

mysql> select * from product;
+-----+-----+-----+-----+-----+
| ProductID | ProductName | QuantityInStock | UnitPrice | Descrip |
+-----+-----+-----+-----+-----+
| P001 | Air purifier | NULL | 10500 | High-quality widget |
| P002 | Hotplate | 2500 | Standard widget |
| P003 | LED bulb | NULL | 650 | Economical widget |
| P004 | Stand fan | NULL | 8500 | High-quality widget |
| P005 | Calculator | NULL | 3000 | Standard widget |
| P006 | Electric kettle | NULL | 2600 | High-quality widget |
+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> DELETE FROM product WHERE ProductID = 'P001';
Query OK, 1 row affected (0.01 sec)

mysql> select * from product;
+-----+-----+-----+-----+-----+
| ProductID | ProductName | QuantityInStock | UnitPrice | Descrip |
+-----+-----+-----+-----+-----+
| P002 | Hotplate | 2500 | Standard widget |
| P003 | LED bulb | 650 | Economical widget |
| P004 | Stand fan | 8500 | High-quality widget |
| P005 | Calculator | 3000 | Standard widget |
| P006 | Electric kettle | 2600 | High-quality widget |
+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql>
```

3.6.6. Supplier_paymentTerms table

```
MySQL 8.0 Command Line Client

mysql> select * from supplier_paymentterms;
+-----+-----+
| SupplierID | PaymentTerms |
+-----+-----+
| S001 | Cheque |
| S002 | Cash |
| S003 | Credit card |
| S003 | Paypal |
| S004 | Paypal |
| S006 | Paypal |
+-----+-----+
6 rows in set (0.00 sec)

mysql> DELETE FROM supplier_paymentterms WHERE SupplierID = 'S001';
Query OK, 1 row affected (0.01 sec)

mysql> select * from supplier_paymentterms;
+-----+-----+
| SupplierID | PaymentTerms |
+-----+-----+
| S002 | Cash |
| S003 | Credit card |
| S003 | Paypal |
| S004 | Paypal |
| S006 | Paypal |
+-----+-----+
5 rows in set (0.00 sec)

mysql>
```



3.6.7. Supplier Table

```
MySQL 8.0 Command Line Client

mysql> select * from supplier;
+-----+-----+-----+-----+-----+
| SupplierID | SupplierName | SupplierEmail | SupplierCity | SupplierProvince | SupplierCountry |
+-----+-----+-----+-----+-----+
| S001 | Argen | argensi@gmail.com | Colombo | Western | Sri Lanka |
| S002 | Raptia | raptaj2@gmail.com | Tenha | Osaka | Japan |
| S003 | Sanota | sanotac@gmail.com | Beijing | Anita | China |
| S004 | Maroin | maroinc@gmail.com | Sheny | Shanghai | China |
| S005 | Septco | septcos15@gmail.com | Negambo | Wayamba | Sri Lanka |
| S006 | Belton | boistons10@gmail.com | Colombo | Western | Sri Lanka |
+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> DELETE FROM supplier WHERE SupplierID = 'S001';
Query OK, 1 row affected (0.00 sec)

mysql> select * from supplier;
+-----+-----+-----+-----+-----+
| SupplierID | SupplierName | SupplierEmail | SupplierCity | SupplierProvince | SupplierCountry |
+-----+-----+-----+-----+-----+
| S002 | Raptia | raptaj2@gmail.com | Tenha | Osaka | Japan |
| S003 | Sanota | sanotac@gmail.com | Beijing | Anita | China |
| S004 | Maroin | maroinc@gmail.com | Sheny | Shanghai | China |
| S005 | Septco | septcos15@gmail.com | Negambo | Wayamba | Sri Lanka |
| S006 | Belton | boistons10@gmail.com | Colombo | Western | Sri Lanka |
+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql>
```



3.6.8. Supplier_telephone table

```
MySQL 8.0 Command Line Client

mysql> select * from supplier_telephone;
+-----+-----+
| SupplierID | Telephone |
+-----+-----+
| S002       | 344112   |
| S002       | 344345   |
| S003       | 319990   |
| S004       | 344444   |
| S005       | 112345   |
| S005       | 114567   |
+-----+-----+
6 rows in set (0.01 sec)

mysql> DELETE FROM supplier_telephone WHERE SupplierID = 'S003';
Query OK, 1 row affected (0.00 sec)

mysql> select * from supplier_telephone;
+-----+-----+
| SupplierID | Telephone |
+-----+-----+
| S002       | 344112   |
| S002       | 344345   |
| S004       | 344444   |
| S005       | 112345   |
| S005       | 114567   |
+-----+-----+
5 rows in set (0.00 sec)

mysql>
```

3.6.9. Shipping Method Table

```
MySQL 8.0 Command Line Client

mysql> select * from shipping_method;
+-----+-----+
| ShipmentID | ShippingMethod |
+-----+-----+
| SH1        | 3rd P.D.    |
| SH2        | Self D.    |
| SH3        | Self D.    |
| SH4        | 3rd P.D.    |
| SH5        | Rail D.    |
| SH6        | Rail D.    |
+-----+-----+
6 rows in set (0.00 sec)

mysql> DELETE FROM shipping_method WHERE ShipmentID IN (SELECT ShipmentID FROM shipment WHERE OrderID = '0001');
Query OK, 1 row affected (0.01 sec)

mysql> select * from shipping_method;
+-----+-----+
| ShipmentID | ShippingMethod |
+-----+-----+
| SH2        | Self D.    |
| SH3        | Self D.    |
| SH4        | 3rd P.D.    |
| SH5        | Rail D.    |
| SH6        | Rail D.    |
+-----+-----+
5 rows in set (0.00 sec)

mysql>
```

3.6.10. Shipment Table

```
MySQL 8.0 Command Line Client

mysql> select * from shipment;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| ShipmentID | OrderID | WarehouseID | TrackingNumber | ShippingDate | Shippingstreet | ShippingCity | ShippingProvince | ShippingCountry |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| SH1 | 0001 | W001 | 1234567890 | 2023-09-14 | Galle road | Matara | Southern | Sri Lanka
| SH2 | 0002 | W004 | 9876543210 | 2023-09-15 | Magalla road | Galle | Southern | Sri Lanka
| SH3 | 0003 | W003 | 4567890123 | 2023-09-16 | Kalidasa road | Gampaha | Western | Sri Lanka
| SH4 | 0004 | W003 | 7890123456 | 2023-09-17 | Main street | Horana | Western | Sri Lanka
| SH5 | 0005 | W005 | 3456789012 | 2023-09-18 | DS street | Kotamale | Central | Sri Lanka
| SH6 | 0006 | W006 | 9012345678 | 2023-09-19 | JS street | Naththandiya | Wayamba | Sri Lanka
+-----+-----+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> DELETE FROM shipment WHERE OrderID = '0001';
Query OK, 1 row affected (0.01 sec)

mysql> select * from shipment;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| ShipmentID | OrderID | WarehouseID | TrackingNumber | ShippingDate | Shippingstreet | ShippingCity | ShippingProvince | ShippingCountry |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| SH2 | 0002 | W004 | 9876543210 | 2023-09-15 | Magalla road | Galle | Southern | Sri Lanka
| SH3 | 0003 | W003 | 4567890123 | 2023-09-16 | Kalidasa road | Gampaha | Western | Sri Lanka
| SH4 | 0004 | W003 | 7890123456 | 2023-09-17 | Main street | Horana | Western | Sri Lanka
| SH5 | 0005 | W005 | 3456789012 | 2023-09-18 | DS street | Kotamale | Central | Sri Lanka
| SH6 | 0006 | W006 | 9012345678 | 2023-09-19 | JS street | Naththandiya | Wayamba | Sri Lanka
+-----+-----+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql>
```

3.6.11. Warehouse Table

```
MySQL 8.0 Command Line Client

mysql> select * from warehouse;
+-----+-----+-----+-----+-----+-----+-----+-----+
| WarehouseID | WarehouseName | Capacity | ParentWarehouseID | SubWarehouseID | WarehouseCity | WarehouseProvince | WarehouseCountry |
+-----+-----+-----+-----+-----+-----+-----+-----+
| W001 | Warehouse1 | 6000 | NULL | NULL | Benito | Shanghai | China
| W002 | Warehouse2 | 3000 | NULL | NULL | Tesaki | Osaka | Japan
| W003 | Warehouse3 | 7000 | NULL | NULL | Colombo | Western | Sri Lanka
| W004 | SubWarehouse1 | 2000 | W001 | NULL | Matara | Southern | Sri Lanka
| W005 | SubWarehouse2 | 1500 | W002 | NULL | Kandy | Central | Sri Lanka
| W006 | SubWarehouse3 | 2500 | W003 | NULL | Negombo | Wayamba | Sri Lanka
+-----+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> DELETE FROM warehouse WHERE WarehouseID = 'W001';
Query OK, 1 row affected (0.01 sec)

mysql> select * from warehouse;
+-----+-----+-----+-----+-----+-----+-----+-----+
| WarehouseID | WarehouseName | Capacity | ParentWarehouseID | SubWarehouseID | WarehouseCity | WarehouseProvince | WarehouseCountry |
+-----+-----+-----+-----+-----+-----+-----+-----+
| W002 | Warehouse2 | 3000 | NULL | NULL | Tesaki | Osaka | Japan
| W003 | Warehouse3 | 7000 | NULL | NULL | Colombo | Western | Sri Lanka
| W004 | SubWarehouse1 | 2000 | W001 | NULL | Matara | Southern | Sri Lanka
| W005 | SubWarehouse2 | 1500 | W002 | NULL | Kandy | Central | Sri Lanka
| W006 | SubWarehouse3 | 2500 | W003 | NULL | Negombo | Wayamba | Sri Lanka
+-----+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql>
```

CHAPTER 4: TRANSACTIONS

4.1. Simple queries.

4.1.1. Select operation.

```
MySQL 8.0 Command Line Client

mysql> SELECT * FROM product;
+-----+-----+-----+-----+-----+
| ProductID | ProductName | QuantityInStock | UnitPrice | Description |
+-----+-----+-----+-----+-----+
| P002 | Hotplate | NULL | 2500 | Standard widget
| P003 | LED bulb | NULL | 650 | Economical widget
| P004 | Stand fan | NULL | 8500 | High-quality widget
| P005 | Calculator | NULL | 3000 | Standard widget
| P006 | Electric kettle | NULL | 2600 | High-quality widget
+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql>
```

4.1.2. Project operation.

```
MySQL 8.0 Command Line Client

mysql> SELECT Distinct W.WarehouseProvince as warehouse_province, S.ShippingProvince as shipping_province from Warehouse as W, Shipment as S order by W.WarehouseProvince;
+-----+-----+
| warehouse_province | shipping_province |
+-----+-----+
| Central           | Southern          |
| Central           | Western           |
| Central           | Central            |
| Central           | Hayama            |
| Osaka             | Southern          |
| Osaka             | Western           |
| Osaka             | Central            |
| Osaka             | Hayama            |
| Southern          | Southern          |
| Southern          | Western           |
| Southern          | Central            |
| Southern          | Hayama            |
| Hayama            | Southern          |
| Hayama            | Western           |
| Hayama            | Central            |
| Hayama            | Hayama            |
| Western            | Southern          |
| Western            | Western           |
| Western            | Central            |
| Western            | Hayama            |
+-----+-----+
20 rows in set (0.00 sec)

mysql>
```

4.1.3. Cartesian operation.

```
MySQL 8.0 Command Line Client

mysql> SELECT *FROM product CROSS JOIN supplier;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| ProductID | ProductName | QuantityInStock | UnitPrice | Descrip | SupplierID | SupplierName | SupplierEmail | SupplierCity | SupplierProvince | SupplierCountry |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| P006 | Electric kettle | NULL | 2600 | High-quality widget | S002 | Rapta | rapta2@gmail.com | Tenha | Osaka | Japan |
| P005 | Calculator | NULL | 3000 | Standard widget | S002 | Rapta | rapta2@gmail.com | Tenha | Osaka | Japan |
| P004 | Stand fan | NULL | 8500 | High-quality widget | S002 | Rapta | rapta2@gmail.com | Tenha | Osaka | Japan |
| P003 | LED bulb | NULL | 650 | Economical widget | S002 | Rapta | rapta2@gmail.com | Tenha | Osaka | Japan |
| P002 | Hotplate | NULL | 2500 | Standard widget | S002 | Rapta | rapta2@gmail.com | Tenha | Osaka | Japan |
| P006 | Electric kettle | NULL | 2600 | High-quality widget | S003 | Sanota | sanotac@gmail.com | Beijing | Anita | China |
| P005 | Calculator | NULL | 3000 | Standard widget | S003 | Sanota | sanotac@gmail.com | Beijing | Anita | China |
| P004 | Stand fan | NULL | 8500 | High-quality widget | S003 | Sanota | sanotac@gmail.com | Beijing | Anita | China |
| P003 | LED bulb | NULL | 650 | Economical widget | S003 | Sanota | sanotac@gmail.com | Beijing | Anita | China |
| P002 | Hotplate | NULL | 2500 | Standard widget | S003 | Sanota | sanotac@gmail.com | Beijing | Anita | China |
| P006 | Electric kettle | NULL | 2600 | High-quality widget | S004 | Maroin | maroinc@gmail.com | Shanya | Shanghai | China |
| P005 | Calculator | NULL | 3000 | Standard widget | S004 | Maroin | maroinc@gmail.com | Shanya | Shanghai | China |
| P004 | Stand fan | NULL | 8500 | High-quality widget | S004 | Maroin | maroinc@gmail.com | Shanya | Shanghai | China |
| P003 | LED bulb | NULL | 650 | Economical widget | S004 | Maroin | maroinc@gmail.com | Shanya | Shanghai | China |
| P002 | Hotplate | NULL | 2500 | Standard widget | S004 | Maroin | maroinc@gmail.com | Shanya | Shanghai | China |
| P006 | Electric kettle | NULL | 2600 | High-quality widget | S005 | Septco | septcosl@gmail.com | Negambo | Wayamba | Sri Lanka |
| P005 | Calculator | NULL | 3000 | Standard widget | S005 | Septco | septcosl@gmail.com | Negambo | Wayamba | Sri Lanka |
| P004 | Stand fan | NULL | 8500 | High-quality widget | S005 | Septco | septcosl@gmail.com | Negambo | Wayamba | Sri Lanka |
| P003 | LED bulb | NULL | 650 | Economical widget | S005 | Septco | septcosl@gmail.com | Negambo | Wayamba | Sri Lanka |
| P002 | Hotplate | NULL | 2500 | Standard widget | S005 | Septco | septcosl@gmail.com | Negambo | Wayamba | Sri Lanka |
| P006 | Electric kettle | NULL | 2600 | High-quality widget | S006 | Belton | boistonslb@gmail.com | Colombo | Western | Sri Lanka |
| P005 | Calculator | NULL | 3000 | Standard widget | S006 | Belton | boistonslb@gmail.com | Colombo | Western | Sri Lanka |
| P004 | Stand fan | NULL | 8500 | High-quality widget | S006 | Belton | boistonslb@gmail.com | Colombo | Western | Sri Lanka |
| P003 | LED bulb | NULL | 650 | Economical widget | S006 | Belton | boistonslb@gmail.com | Colombo | Western | Sri Lanka |
| P002 | Hotplate | NULL | 2500 | Standard widget | S006 | Belton | boistonslb@gmail.com | Colombo | Western | Sri Lanka |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
25 rows in set (0.00 sec)

mysql>
```

4.1.4. Creating a user view.

```
MySQL 8.0 Command Line Client

mysql> CREATE VIEW LowInventoryProducts1 AS SELECT p.ProductName, i.QuantityInStock FROM product p INNER JOIN inventory i ON p.ProductID = i.ProductID WHERE i.QuantityInStock < 50;
Query OK, 0 rows affected (0.01 sec)

mysql> select * from LowInventoryProducts1;
Empty set (0.01 sec)

mysql> select * from LowInventoryProducts;
Empty set (0.00 sec)

mysql>
```

4.1.5. Renaming operation.

```
MySQL 8.0 Command Line Client
mysql> select OrderID as id ,TrackingNumber as Track_num from shipment;
+----+-----+
| id | Track_num |
+----+-----+
| 0002 | 9876543210 |
| 0003 | 4567890123 |
| 0004 | 7890123456 |
| 0005 | 3456789012 |
| 0006 | 9812345678 |
+----+
5 rows in set (0.00 sec)

mysql>
```



4.1.6. Usage of aggregation operations.

```
MySQL 8.0 Command Line Client
mysql> SELECT SUM(ItemPrice * Quantity) AS TotalAmount FROM p_order_item WHERE OrderID = '0005';
+-----+
| TotalAmount |
+-----+
|      70000 |
+-----+
1 row in set (0.00 sec)

mysql>
```



4.1.7. Use of LIKE keyword.

```
MySQL 8.0 Command Line Client
mysql> SELECT OrderID as This_month_orders FROM p_order where OrderDate like "2023-09-%";
+-----+
| This_month_orders |
+-----+
| 0001
| 0002
| 0003
| 0004
| 0005
| 0006
+-----+
6 rows in set (0.00 sec)

mysql>
```



4.2. Complex queries.

4.2.1. Basic set operations.

4.2.1.1. Union.

```
MySQL 8.0 Command Line Client
mysql> SELECT ProductName FROM product WHERE QuantityInStock < 50 UNION SELECT ProductName FROM product WHERE UnitPrice < 2000;
+-----+
| ProductName |
+-----+
| LED bulb   |
+-----+
1 row in set (0.00 sec)

mysql>
```



4.2.1.2. Intersection.

4.2.1.3. Set difference.

4.2.1.4. Division.

4.2.2. Relational algebraic operations.

4.2.2.1. Inner join.

```
MySQL 8.0 Command Line Client

mysql> SELECT O.OrderID, P.ProductName FROM p_order AS O INNER JOIN p_order_item AS OI ON O.OrderID = OI.OrderID INNER JOIN product AS P ON OI.ItemID = P.ProductID;
+-----+-----+
| OrderID | ProductName |
+-----+-----+
| 0002   | Hotplate    |
| 0003   | LED bulb    |
| 0004   | Stand fan   |
| 0005   | Calculator  |
| 0006   | Electric kettle |
+-----+-----+
5 rows in set (0.00 sec)

mysql>
```

24°C Mostly cloudy

Search

4:32 AM 9/11/2023

4.2.2.2. Natural join.

```
MySQL 8.0 Command Line Client

mysql> SELECT O.OrderID, O.CustomerID, OI.ItemID, P.ProductName FROM p_order AS O NATURAL JOIN p_order_item AS OI NATURAL JOIN product AS P;
+-----+-----+-----+-----+
| OrderID | CustomerID | ItemID | ProductName |
+-----+-----+-----+-----+
| 0002   | C002       | P002   | Hotplate    |
| 0003   | C001       | P003   | LED bulb    |
| 0004   | C003       | P004   | Stand fan   |
| 0005   | C006       | P005   | Calculator  |
| 0006   | C002       | P006   | Electric kettle |
+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql>
```

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4.2.2.3. Left outer join.

```
MySQL 8.0 Command Line Client

mysql> SELECT O.OrderID, O.OrderDate, SUM(OI.ItemPrice * OI.Quantity) AS TotalAmount FROM p_order AS O LEFT JOIN p_order_item AS OI ON O.OrderID = OI.OrderID GROUP BY O.OrderID, O.OrderDate;
+-----+-----+-----+
| OrderID | OrderDate | TotalAmount |
+-----+-----+-----+
| 0001    | 2023-09-10 |      12000 |
| 0002    | 2023-09-11 |       5000 |
| 0003    | 2023-09-12 |      3250 |
| 0004    | 2023-09-13 |      8500 |
| 0005    | 2023-09-14 |     70000 |
| 0006    | 2023-09-15 |      2600 |
+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>
```

4.2.2.4. Right outer join.

4.2.2.5. Full outer join.

4.2.2.6. Outer union join.

```
MySQL 8.0 Command Line Client

mysql> SELECT OrderID, 'Order' AS Type FROM p_order UNION ALL SELECT ShipmentID, 'Shipment' AS Type FROM shipment;
+-----+-----+
| OrderID | Type   |
+-----+-----+
| 0001    | Order  |
| 0002    | Order  |
| 0003    | Order  |
| 0004    | Order  |
| 0005    | Order  |
| 0006    | Order  |
| SH1     | Shipment |
| SH2     | Shipment |
| SH3     | Shipment |
| SH4     | Shipment |
| SH5     | Shipment |
| SH6     | Shipment |
+-----+-----+
11 rows in set (0.00 sec)

mysql>
```

4.2.2.7. Nested queries.

```
MySQL 8.0 Command Line Client
mysql> SELECT DISTINCT O.CustomerID FROM p_order AS O WHERE O.CustomerID NOT IN ( SELECT O2.CustomerID FROM p_order AS O2 JOIN p_order_item AS OI ON O2.OrderID = OI.OrderID JOIN product AS P ON OI.ItemID = P.ProductID JOIN product_attribute AS PA ON P.ProductID = PA.ProductID WHERE PA.AttributeValue = 'Medium');
+-----+
| CustomerID |
+-----+
| C001       |
| C002       |
| C003       |
| C006       |
+-----+
4 rows in set (0.00 sec)

mysql>
```



4.2.2.8. Nested query 1.

4.2.2.9. Nested query 2.

4.2.2.10. Nested query 3.

```
MySQL 8.0 Command Line Client

mysql> SELECT P.ProductName, PS.Supplier FROM product AS P LEFT JOIN product_supplier AS PS ON P.ProductID = PS.ProductID;
+-----+-----+
| ProductName | Supplier |
+-----+-----+
| Hotplate   | S006 |
| LED bulb   | S002 |
| Stand Fan  | S003 |
| Stand Fan  | S004 |
| Calculator | S004 |
| Electric kettle | S006 |
+-----+-----+
6 rows in set (0.00 sec)

mysql> SELECT ProductID, SUM(QuantityInStock) AS TotalQuantityInStockFROM inventoryGROUP BY ProductID;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'inventoryGROUP BY ProductID' at line 1
mysql> SELECT ProductID, SUM(QuantityInStock) AS TotalQuantityInStock FROM inventory GROUP BY ProductID;
+-----+-----+
| ProductID | TotalQuantityInStock |
+-----+-----+
| P003      |        75 |
| P005      |        50 |
| P006      |        60 |
+-----+-----+
3 rows in set (0.00 sec)

mysql> SELECT S.SupplierName, PT.PaymentTerms FROM supplier AS S INNER JOIN supplier_paymentTerms AS PT ON S.SupplierID = PT.SupplierID WHERE PT.PaymentTerms = 'Net 30';
Empty set (0.00 sec)

mysql> SELECT O.CustomerID, SUM(O.TotalAmount) AS TotalOrderAmount FROM p_order AS O WHERE O.OrderStatus = TRUE GROUP BY O.CustomerID;
+-----+-----+
| CustomerID | TotalOrderAmount |
+-----+-----+
| C001       |        NULL |
| C002       |        NULL |
| C003       |        NULL |
| C006       |        NULL |
+-----+-----+
4 rows in set (0.01 sec)

mysql> SELECT P.ProductName, PA.AttributeName, PA.AttributeValue FROM product AS P INNER JOIN product_attribute AS PA ON P.ProductID = PA.ProductID WHERE PA.AttributeValue = 10;
Empty set, 5 warnings (0.00 sec)

mysql> SELECT O.OrderID FROM p_order AS O WHERE O.SubOrderID IS NOT NULL;
+-----+
| OrderID |
+-----+
| 0001    |
| 0002    |
+-----+
2 rows in set (0.00 sec)

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```

```
MySQL 8.0 Command Line Client

+-----+-----+
| P005 |      50 |
| P006 |      60 |
+-----+-----+
3 rows in set (0.00 sec)

mysql> SELECT S.SupplierName, PT.PaymentTerms FROM supplier AS S INNER JOIN supplier_paymentTerms AS PT ON S.SupplierID = PT.SupplierID WHERE PT.PaymentTerms = 'Net 30';
Empty set (0.00 sec)

mysql> SELECT O.CustomerID, SUM(O.TotalAmount) AS TotalOrderAmount FROM p_order AS O WHERE O.OrderStatus = TRUE GROUP BY O.CustomerID;
+-----+-----+
| CustomerID | TotalOrderAmount |
+-----+-----+
| C001       |        NULL |
| C002       |        NULL |
| C003       |        NULL |
| C006       |        NULL |
+-----+-----+
4 rows in set (0.01 sec)

mysql> SELECT P.ProductName, PA.AttributeName, PA.AttributeValue FROM product AS P INNER JOIN product_attribute AS PA ON P.ProductID = PA.ProductID WHERE PA.AttributeValue = 10;
Empty set, 5 warnings (0.00 sec)

mysql> SELECT O.OrderID FROM p_order AS O WHERE O.SubOrderID IS NOT NULL;
+-----+
| OrderID |
+-----+
| 0001    |
| 0002    |
| 0003    |
| 0004    |
| 0005    |
| 0006    |
+-----+
6 rows in set (0.00 sec)

mysql> SELECT W.WarehouseName, COUNT(S.ShipmentID) AS ShipmentCount FROM warehouse AS W LEFT JOIN shipment AS S ON W.WarehouseID = S.WarehouseID GROUP BY W.WarehouseName;
+-----+-----+
| WarehouseName | ShipmentCount |
+-----+-----+
| Warehouse2   |        0 |
| Warehouse3   |        2 |
| SubWarehouse1 |        1 |
| SubWarehouse2 |        1 |
| SubWarehouse3 |        1 |
+-----+-----+
5 rows in set (0.00 sec)

mysql> SELECT O.OrderID, S.ShippingCity FROM p_order AS O INNER JOIN shipment AS S ON O.OrderID = S.OrderID WHERE S.ShippingCity = 'New York';
Empty set (0.00 sec)

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```

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```
mysql> SELECT P.ProductName, PS.Supplier  
    -> FROM product AS P  
    -> INNER JOIN product_supplier AS PS ON P.ProductID = PS.ProductID;  
+-----+-----+  
| ProductName | Supplier |  
+-----+-----+  
| Hotplate   | S006   |  
| LED bulb   | S002   |  
| Stand fan  | S003   |  
| Stand fan  | S004   |  
| Calculator | S004   |  
| Electric kettle | S006 |  
+-----+  
6 rows in set (0.00 sec)  
  
mysql> █
```

```
mysql>  
mysql> SELECT P.ProductName, SUM(I.QuantityInStock) AS TotalQuantityInStock  
    -> FROM product AS P  
    -> LEFT JOIN inventory AS I ON P.ProductID = I.ProductID  
    -> GROUP BY P.ProductName;  
+-----+-----+  
| ProductName | TotalQuantityInStock |  
+-----+-----+  
| Hotplate   |          NULL |  
| LED bulb   |          75 |  
| Stand fan  |          NULL |  
| Calculator |          50 |  
| Electric kettle |          60 |  
+-----+  
5 rows in set (0.00 sec)  
  
mysql> █
```

```
mysql>
mysql> SELECT S.SupplierName, PT.PaymentTerms
-> FROM supplier AS S
-> INNER JOIN supplier_paymentTerms AS PT ON S.SupplierID = PT.SupplierID
-> WHERE PT.PaymentTerms = 'Net 30';
Empty set (0.00 sec)

mysql> █
```

```
mysql> SELECT O.CustomerID, SUM(O.TotalAmount) AS TotalOrderAmount
-> FROM p_order AS O
-> WHERE O.OrderStatus = TRUE
-> GROUP BY O.CustomerID;
+-----+-----+
| CustomerID | TotalOrderAmount |
+-----+-----+
| C001       |      NULL |
| C002       |      NULL |
| C003       |      NULL |
| C006       |      NULL |
+-----+-----+
4 rows in set (0.00 sec)

mysql> █
```

```
mysql> SELECT P.ProductName, PA.AttributeName, PA.AttributeValue
-> FROM product AS P
-> INNER JOIN product_attribute AS PA ON P.ProductID = PA.ProductID
-> WHERE PA.AttributeValue = 10;
Empty set, 5 warnings (0.00 sec)
mysql> █
```

```
mysql> SELECT O.OrderID
-> FROM p_order AS O
-> WHERE O.SubOrderID IS NOT NULL;
+-----+
| OrderID |
+-----+
| 0001 |
| 0002 |
| 0003 |
| 0004 |
| 0005 |
| 0006 |
+-----+
6 rows in set (0.00 sec)
mysql> █
```

```
mysql> SELECT O.OrderID, S.ShippingCity  
-> FROM p_order AS O  
-> INNER JOIN shipment AS S ON O.OrderID = S.OrderID  
-> WHERE S.ShippingCity = 'New York';  
Empty set (0.00 sec)  
mysql> █
```