

-- Create database

```
CREATE DATABASE BillingDB;
```

-- Use the database

```
USE BillingDB;
```

-- Table to store customer information

```
CREATE TABLE Customers (  
    CustomerID INT AUTO_INCREMENT PRIMARY KEY,  
    CustomerName VARCHAR(255) NOT NULL,  
    ContactEmail VARCHAR(100),  
    PhoneNumber VARCHAR(20),  
    Address TEXT  
);
```

-- Table to store product information

```
CREATE TABLE Products (  
    ProductID INT AUTO_INCREMENT PRIMARY KEY,  
    ProductName VARCHAR(255) NOT NULL,  
    Description TEXT,  
    Price DECIMAL(10, 2) NOT NULL,  
    StockQuantity INT NOT NULL  
);
```

-- Table to store invoice information

```
CREATE TABLE Invoices (  
    InvoiceID INT AUTO_INCREMENT PRIMARY KEY,  
    CustomerID INT,  
    InvoiceDate DATE NOT NULL,  
    TotalAmount DECIMAL(10, 2) NOT NULL,
```

```
FOREIGN KEY (CustomerID) REFERENCES Customers(CustomerID)
);
```

-- Table to store invoice items

```
CREATE TABLE InvoiceItems (
    InvoiceItemID INT AUTO_INCREMENT PRIMARY KEY,
    InvoiceID INT,
    ProductID INT,
    Quantity INT NOT NULL,
    UnitPrice DECIMAL(10, 2) NOT NULL,
    FOREIGN KEY (InvoiceID) REFERENCES Invoices(InvoiceID),
    FOREIGN KEY (ProductID) REFERENCES Products(ProductID)
);
```

-- Example Inserts into Customers table

```
INSERT INTO Customers (CustomerName, ContactEmail, PhoneNumber, Address) VALUES
('Acme Corporation', 'info@acmecorp.com', '555-1234', '123 Main Street, Metropolis'),
('Beta LLC', 'contact@betallc.com', '555-5678', '456 Elm Street, Gotham');
```

-- Example Inserts into Products table

```
INSERT INTO Products (ProductName, Description, Price, StockQuantity) VALUES
('Widget A', 'High-quality widget', 29.99, 100),
('Gadget B', 'Advanced gadget', 89.99, 50),
('Accessory C', 'Useful accessory', 9.99, 200);
```

-- Example Inserts into Invoices table

```
INSERT INTO Invoices (CustomerID, InvoiceDate, TotalAmount) VALUES
(1, '2024-08-15', 139.97), -- Acme Corporation
(2, '2024-08-16', 99.98); -- Beta LLC
```

-- Example Inserts into InvoiceItems table

```
INSERT INTO InvoiceItems (InvoiceID, ProductID, Quantity, UnitPrice) VALUES
```

```
(1, 1, 3, 29.99), -- 3 Widget A for Acme Corporation
```

```
(1, 3, 2, 9.99), -- 2 Accessory C for Acme Corporation
```

```
(2, 2, 1, 89.99); -- 1 Gadget B for Beta LLC
```

-- Insert invoice

```
INSERT INTO Invoices (CustomerID, InvoiceDate, TotalAmount)
```

```
VALUES (3, '2024-08-17', 149.98);
```

-- Insert invoice items

```
INSERT INTO InvoiceItems (InvoiceID, ProductID, Quantity, UnitPrice)
```

```
VALUES (3, 1, 2, 29.99), -- 2 Widget A for Gamma Industries
```

```
(3, 4, 1, 49.99); -- 1 Tool D for Gamma Industries
```

```
SELECT * FROM Customers;
```

```
SELECT * FROM Products;
```

```
SELECT i.InvoiceID, c.CustomerName, i.InvoiceDate, i.TotalAmount
```

```
FROM Invoices i
```

```
JOIN Customers c ON i.CustomerID = c.CustomerID;
```

```
SELECT i.InvoiceID, p.ProductName, ii.Quantity, ii.UnitPrice
```

```
FROM InvoiceItems ii
```

```
JOIN Invoices i ON ii.InvoiceID = i.InvoiceID
```

```
JOIN Products p ON ii.ProductID = p.ProductID
```

```
WHERE i.InvoiceID = 1; -- For invoice with ID 1
```

```
SELECT i.InvoiceID, i.InvoiceDate, p.ProductName, ii.Quantity, ii.UnitPrice
```

```
FROM Invoices i
```

```
JOIN InvoiceItems ii ON i.InvoiceID = ii.InvoiceID
```

```
JOIN Products p ON ii.ProductID = p.ProductID
```

```
WHERE i.CustomerID = 1; -- For customer with ID 1
```