

Tables

1. Suppliers

- **Columns:** SupplierID (PK), Name, ContactInfo, Address

2. Products

- **Columns:** ProductID (PK), Name, Description, SupplierID (FK)

3. Orders

- **Columns:** OrderID (PK), OrderDate, SupplierID (FK)

4. OrderDetails

- **Columns:** OrderDetailID (PK), OrderID (FK), ProductID (FK), Quantity, Price

5. Inventory

- **Columns:** InventoryID (PK), ProductID (FK), QuantityOnHand

Relationships

- **Suppliers to Products:** One-to-Many (One supplier can supply many products)
- **Orders to Suppliers:** Many-to-One (Many orders can be placed to one supplier)
- **Orders to OrderDetails:** One-to-Many (One order can have many order details)
- **Products to OrderDetails:** One-to-Many (One product can appear in many order details)
- **Products to Inventory:** One-to-One (Each product has a unique inventory entry)

Queries

1. List all products along with their supplier names
2. Get all orders with their details (including product names and quantities)
3. Find all suppliers who have supplied a specific product (e.g., ProductID = 1)
4. List all products and their current inventory levels
5. Find all orders placed within the last month
6. Get total quantity ordered for each product
7. Retrieve all orders along with the total amount spent for each order
8. Find products supplied by more than one supplier
9. Get the average inventory level for each product
10. List suppliers who have not supplied any products

Query Data:

```
INSERT INTO Suppliers (SupplierID, Name, ContactInfo, Address) VALUES (1, 'Supplier A', 'contactA@example.com', 'Address A'), (2, 'Supplier B', 'contactB@example.com', 'Address B'), (3, 'Supplier C', 'contactC@example.com', 'Address C');
```

```
INSERT INTO Products (ProductID, Name, Description, SupplierID) VALUES (1, 'Product 1', 'Description 1', 1), (2, 'Product 2', 'Description 2', 1), (3, 'Product 3', 'Description 3', 2), (4, 'Product 4', 'Description 4', 3), (5, 'Product 5', 'Description 5', 3);
```

```
INSERT INTO Orders (OrderID, OrderDate, SupplierID) VALUES (1, '2024-07-01', 1), (2, '2024-07-05', 2), (3, '2024-07-10', 3), (4, '2024-07-15', 1), (5, '2024-07-20', 2);
```

```
INSERT INTO OrderDetails (OrderDetailID, OrderID, ProductID, Quantity, Price) VALUES (1, 1, 1, 10, 100), (2, 1, 2, 5, 200), (3, 2, 3, 15, 150), (4, 3, 4, 20, 250), (5, 3, 5, 25, 300), (6, 4, 1, 10, 100), (7, 4, 3, 5, 150), (8, 5, 2, 10, 200), (9, 5, 4, 15, 250);
```

```
INSERT INTO Inventory (InventoryID, ProductID, QuantityOnHand) VALUES (1, 1, 50), (2, 2, 30), (3, 3, 20), (4, 4, 15), (5, 5, 10);
```