



Online Retail Application Database

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Member 2

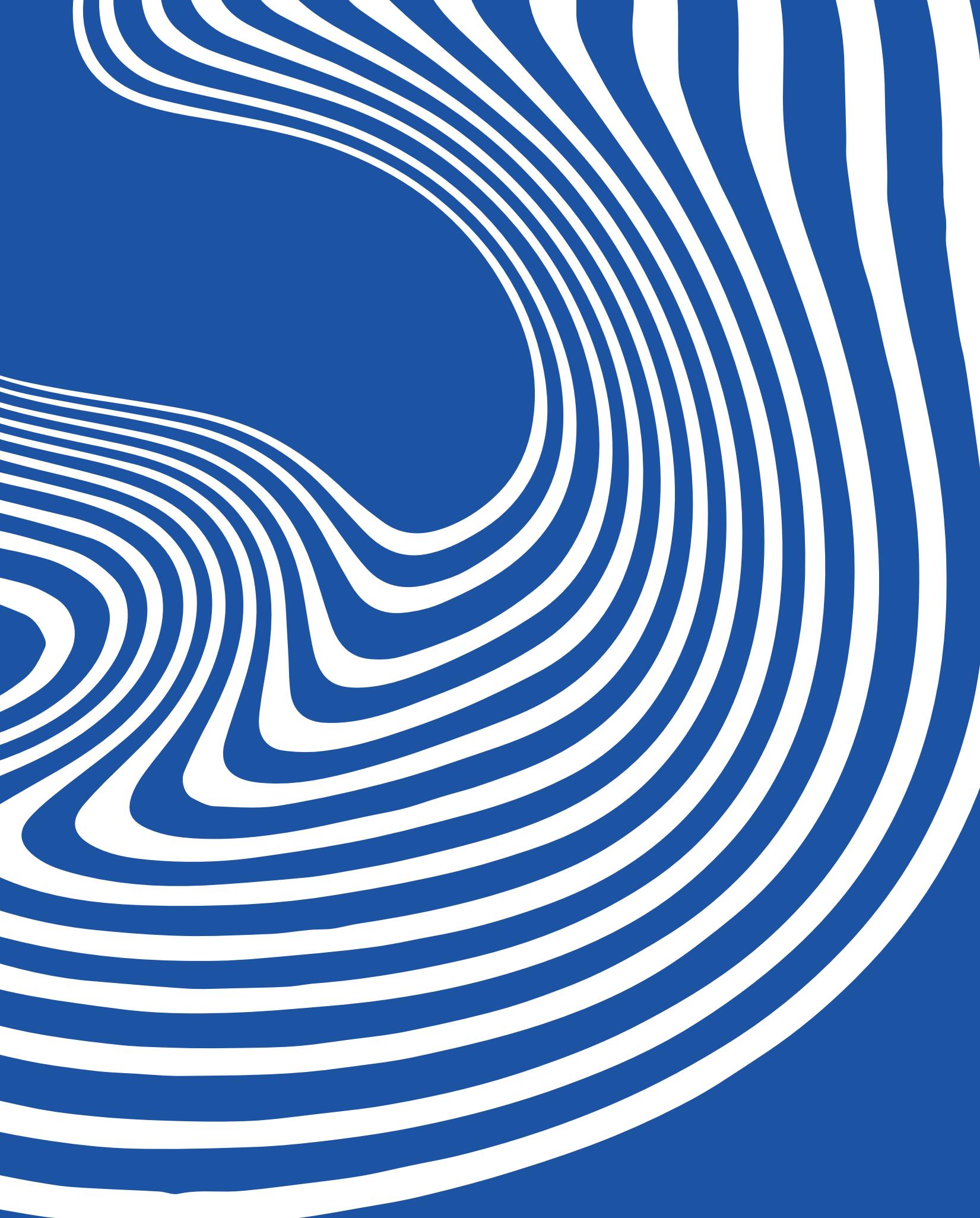
Member 3

Member 4

Member 5

Member 6

Member 7

A large, abstract graphic on the left side of the slide features a series of concentric, wavy lines in varying shades of blue and white. These lines create a sense of depth and motion, resembling ripples or waves. They start from the bottom left and curve upwards towards the top left corner.

The
requirement

The entities that will be included in our database:

****Products****
* Attributes:
+ ProductID
+ Name
+ Description
+ Price
+ CategoryID

****Categories****
* Attributes:
+ CategoryID
+ Name

****Customers****
* Attributes:
+ CustomerID
+ FirstName
+ LastName
+ Email
+ Address
+ PhoneNumber

****Orders****
* Attributes:
+ OrderID
+ CustomerID
+ OrderDate
+ TotalAmount
+ Status

****OrderDetails****
* Attributes:
+ OrderDetailID
+ OrderID
+ ProductID
+ Quantity
+ Price

****Reviews****
* Attributes:
+ ReviewID
+ ProductID
+ CustomerID
+ Rating
+ Feedback

****Supplies****
* Attributes:
+ SuppliesID
+ Name
+ ContactInfo

****Shipping****
* Attributes:
+ ShippingID
+ OrderID
+ ShippingDate

****Payment****
* Attributes:
+ PaymentID
+ OrderID
+ PaymentDate
+ Amount
+ PaymentMethod

****Employees****
* Attributes:
+ EmployeeID
+ FirstName
+ LastName
+ Position
+ Salary

Primary & foreign key's

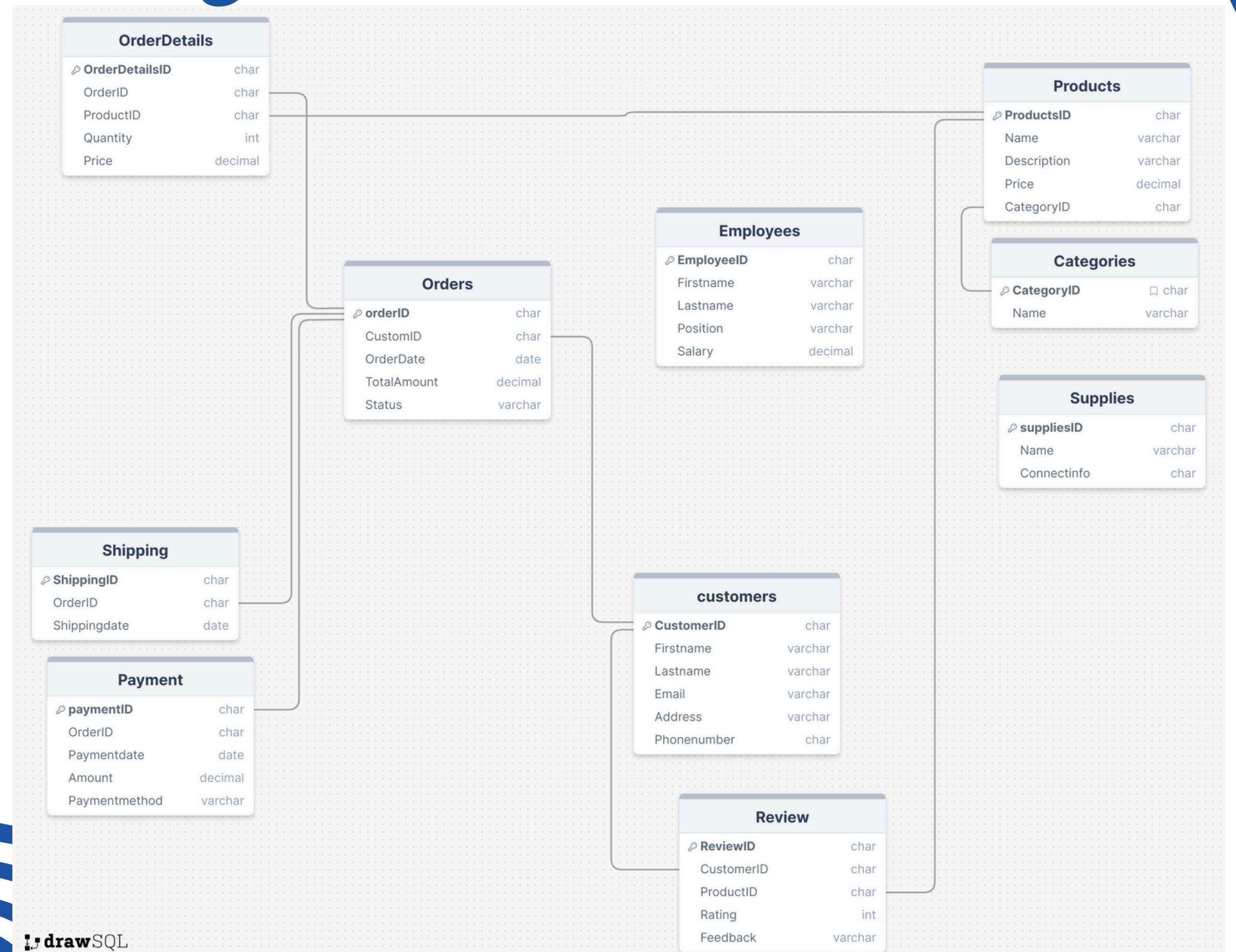
Primary Keys

- 1. Products : ProductID
- 2. Categories : CategoryID
- 3. Customers : CustomerID
- 4. Orders : OrderID
- 5. OrderDetails : OrderDetailID
- 6. Employees : EmployeeID
- 7. Supplies : SuppliesID
- 8. Reviews : ReviewID
- 9. Shipping : ShippingID
- 10. Payment : PaymentID

Foreign Keys

- 1. Products : CategoryID (references Categories(CategoryID))
- 2. Orders : CustomerID (references Customers(CustomerID))
- 3. OrderDetails : OrderID (references Orders(OrderID))
- 4. OrderDetails : ProductID (references Products(ProductID))
- 5. Reviews : ProductID (references Products(ProductID))
- 6. Reviews : CustomerID (references Customers(CustomerID))
- 7. Shipping : OrderID (references Orders(OrderID))
- 8. Payment : OrderID (references Orders(OrderID))

schema diagram



Products table

```
create table Products (
ProductID CHAR(5),
Name VARCHAR(20) not null,
Description VARCHAR(100),
Price DECIMAL(6,2) not null,
CategoryID CHAR(2) not null,
Constraint Products primary key (ProductID),
constraint fk_cat foreign key (CategoryID ) references Categories(CategoryID ));
```

```
INSERT INTO Products VALUES('P001', 'Laptop', 'High-performance laptop with the latest processor', 1200.00, 'C1');
INSERT INTO Products VALUES('P002', 'Smartphone', 'Smartphone with advanced features', 800.00, 'C1');
INSERT INTO Products VALUES('P003', 'Watch', 'Stylish and durable watch with smart features', 150.00, 'C2');
INSERT INTO Products VALUES('P004', 'Backpack', 'Spacious and ergonomic backpack for everyday use', 50.00, 'C3');
INSERT INTO Products VALUES('P005', 'Sneakers', 'Comfortable and stylish sneakers for everyday wear', 80.00, 'C4');
INSERT INTO Products VALUES('P006', 'Desk Lamp', 'Adjustable desk lamp with LED lighting for workspace illumination', 30.00, 'C5');
INSERT INTO Products VALUES('P007', 'Travel Mug', 'Insulated travel mug to keep beverages hot or cold on the go', 20.00, 'C6');
INSERT INTO Products VALUES('P008', 'Running Shoes', 'Lightweight running shoes designed for speed and comfort', 120.00, 'C4');
INSERT INTO Products VALUES('P009', 'Desk Organizer', 'Multi-compartment desk organizer for keeping stationery items tidy', 25.00, 'C5');
INSERT INTO Products VALUES('P010', 'Tote Bag', 'Fashionable tote bag made from durable canvas material', 40.00, 'C3');
```

ProductID	Name	Description	Price	CategoryID
P003	Watch	Stylish and durable watch with smart features	150	C2
P004	Backpack	Spacious and ergonomic backpack for everyday use	50	C3
P005	Sneakers	Comfortable and stylish sneakers for everyday wear	80	C4
P006	Desk Lamp	Adjustable desk lamp with LED lighting for workspace illumination	30	C5
P007	Travel Mug	Insulated travel mug to keep beverages hot or cold on the go	20	C6
P008	Running Shoes	Lightweight running shoes designed for speed and comfort	120	C4
P009	Desk Organizer	Multi-compartment desk organizer for keeping stationery items tidy	25	C5
P010	Tote Bag	Fashionable tote bag made from durable canvas material	40	C3
P001	Laptop	High-performance laptop with the latest processor	1200	C1
P002	Smartphone	Smartphone with advanced features	800	C1

Categories table

```
create table Categories(  
CategoryID CHAR(2),  
Name VARCHAR(20) not null,  
Constraint Categories primary key (CategoryID) );
```

```
INSERT INTO Categories VALUES ('C1', 'Electronics');  
INSERT INTO Categories VALUES ('C2', 'Accessories');  
INSERT INTO Categories VALUES ('C3', 'Bags');  
INSERT INTO Categories VALUES ('C4', 'Footwear');  
INSERT INTO Categories VALUES ('C5', 'Home & Office');  
INSERT INTO Categories VALUES ('C6', 'Travel Accessories');
```

CATEGORYID	NAME
C1	Electronics
C2	Accessories
C3	Bags
C4	Footwear
C5	Home & Office
C6	Travel Accessories



Customers table

```
create table Customers(  
CustomerID CHAR(5),  
FirstName VARCHAR(20) not null,  
LastName VARCHAR(20) not null,  
Email VARCHAR(50) not null,  
Address VARCHAR(50) not null,  
PhoneNumber CHAR(10),  
Constraint Customers primary key (CustomerID) );
```

```
INSERT INTO Customers VALUES ('C001', 'Ahmed', 'Ali', 'ahmed111@gmail.com', 'King Fahd Road - Riyadh', '0543933764');  
INSERT INTO Customers VALUES ('C002', 'Fatima', 'Mohamed', 'fatima656@hotmail.com', 'King Salman Road - Al-Rass',  
'0557659988');  
INSERT INTO Customers VALUES ('C003', 'Mahmoud', 'Khalil', 'mahmoud999@gmail.com', 'King Abdulaziz Road - Buraidah',  
'0555441288');  
INSERT INTO Customers VALUES ('C004', 'Nour', 'Abdullah', 'nourAbdullah@gmail.com', 'King Fahd bin Abdulaziz Road - Buraidah',  
'0556665890');  
INSERT INTO Customers VALUES ('C005', 'Layla', 'Ahmed', 'layla22@hotmail.com', 'King Abdulaziz Road - Al-Rass', '0555432177');  
INSERT INTO Customers VALUES ('C006', 'Mohamed', 'Khalid', 'mohamedKH2@gmail.com', 'King Fahd bin Abdulaziz Road -  
Unizah', '0543885511');  
INSERT INTO Customers VALUES ('C007', 'Reem', 'Ali', 'reem1212@gmail.com', 'Medina Road - Unizah', '0551122883'); |
```

CUSTOMERID	FIRSTNAME	LASTNAME	EMAIL	ADDRESS	PHONE NUMBER
C001	Ahmed	Ali	ahmed111@gmail.com	King Fahd Road - Riyadh	0543933764
C002	Fatima	Mohamed	fatima656@hotmail.com	King Salman Road - Al-Rass	0557659988
C003	Mahmoud	Khalil	mahmoud999@gmail.com	King Abdulaziz Road - Buraidah	0555441288
C004	Nour	Abdullah	nourAbdullah@gmail.com	King Fahd bin Abdulaziz Road - Buraidah	0556665890
C005	Layla	Ahmed	layla22@example.com	King Abdulaziz Road - Al-Rass	0555432177
C006	Mohamed	Khalid	mohamedKH2@gmail.com	King Fahd bin Abdulaziz Road - Unizah	0543885511
C007	Reem	Ali	reem1212@gmail.com	Medina Road - Unizah	0551122883

Orders table

```
CREATE TABLE Orders (
    OrderID char(5),
    CustomerID char(5),
    OrderDate DATE not null,
    TotalAmount DECIMAL(7,2),
    Status VARCHAR(50),
    Constraint Orders primary key (OrderID),
    Constraint fk_cus FOREIGN KEY (CustomerID) REFERENCES Customers(CustomerID));
```

```
INSERT INTO Orders VALUES('0001', 'C001', '04-12-2024', 150.00, 'Shipped');
INSERT INTO Orders VALUES ('0002', 'C002', '04-10-2024', 220.50, 'Confirmed');
INSERT INTO Orders VALUES ('0003', 'C003', '03-30-2024', 180.00, 'Shipped');
INSERT INTO Orders VALUES ('0004', 'C004', '04-14-2024', 90.75, 'Shipped');
INSERT INTO Orders VALUES ('0005', 'C005', '03-20-2024', 320.00, 'Delivered');
INSERT INTO Orders VALUES ('0006', 'C006', '04-13-2024', 75.25, 'Shipped');
INSERT INTO Orders VALUES ('0007', 'C007', '04-11-2024', 200.00, 'Confirmed');
```

OrderID	CustomerID	OrderDate	TotalAmount	Status
O003	C003	03/30/2024	160	Shipped
O004	C004	04/14/2024	1200	Shipped
O005	C005	03/20/2024	40	Delivered
O006	C006	04/13/2024	90	Shipped
O007	C007	04/11/2024	480	Confirmed
O001	C001	04/12/2024	850	Shipped
O002	C002	04/10/2024	500	Confirmed

Order details table

```
create table OrderDetails(  
    OrderDetailID CHAR(5),  
    OrderID CHAR(5),  
    ProductID CHAR(5),  
    Quantity INT not null,  
    Price DECIMAL(6,2) not null,  
    Constraint OrderDetails primary key (OrderDetailID),  
    Constraint fk_ord foreign key(OrderID)references Orders (OrderID),  
    Constraint fk_pro foreign key(ProductID) references Products (ProductID));
```

```
INSERT INTO OrderDetails VALUES ('OD001', '0001', 'P009', 2, 50.00);  
INSERT INTO OrderDetails VALUES ('OD002', '0001', 'P002', 1, 800.00);  
INSERT INTO OrderDetails VALUES ('OD003', '0002', 'P003', 3, 450.00);  
INSERT INTO OrderDetails VALUES ('OD004', '0002', 'P004', 1, 50.00);  
INSERT INTO OrderDetails VALUES ('OD005', '0003', 'P005', 2, 160.00);  
INSERT INTO OrderDetails VALUES ('OD006', '0004', 'P001', 1, 1200.00);  
INSERT INTO OrderDetails VALUES ('OD007', '0005', 'P007', 2, 40.00);  
INSERT INTO OrderDetails VALUES ('OD008', '0006', 'P006', 3, 90.00);  
INSERT INTO OrderDetails VALUES ('OD009', '0007', 'P008', 4, 480.00);
```

OrderDetailID	OrderID	ProductID	Quantity	Price
OD003	O002	P003	3	450
OD001	O001	P009	2	50
OD002	O001	P002	1	800
OD004	O002	P004	1	50
OD005	O003	P005	2	160
OD006	O004	P001	1	1200
OD007	O005	P007	2	40
OD008	O006	P006	3	90
OD009	O007	P008	4	480

Employees table

```
CREATE TABLE employees (
    EmployeeID CHAR(5),
    FirstName VARCHAR(20) not null,
    LastName VARCHAR(20) not null,
    Position VARCHAR(20),
    Salary DECIMAL(6,2),
    Constraint employees primary key (EmployeeID) );
```

```
INSERT INTO employees VALUES ('E001', 'Ahmed', 'Ali', 'E-commerce Manager', 5000.00);
INSERT INTO employees VALUES ('E002', 'Fatima', 'Mohamed', 'Customer Service', 3000.50);
INSERT INTO employees VALUES ('E003', 'Mahmoud', 'Khalil', 'Warehouse Manager', 4000.00);
INSERT INTO employees VALUES ('E004', 'Nour', 'Abdullah', 'Logistics Expert', 3500.75);
INSERT INTO employees VALUES ('E005', 'Layla', 'Ahmed', 'Marketing Specialist', 3800.00);
INSERT INTO employees VALUES ('E006', 'Mohamed', 'Khalid', 'Content Writer', 3200.25);
INSERT INTO employees VALUES ('E007', 'Reem', 'Ali', 'Product Photographer', 2800.00);
```

EmployeeID	FirstName	LastName	Position	Salary
E001	Ahmed	Ali	E-commerce Manager	5000
E002	Fatima	Mohamed	Customer Service	3000.5
E003	Mahmoud	Khalil	Warehouse Manager	4000
E004	Nour	Abdullah	Logistics Expert	3500.75
E005	Layla	Ahmed	Marketing Specialist	3800
E006	Mohamed	Khalid	Content Writer	3200.25
E007	Reem	Ali	Product Photographer	2800

Supplies table

```
create table supplies (
    SuppliesID CHAR(10) ,
    Name VARCHAR(30) not null,
    ContactInfo CHAR(10) not null,
    Constraint supplies primary key (SuppliesID));
```

```
INSERT INTO supplies VALUES ('S001', 'Bags company', '0557665544');
INSERT INTO supplies VALUES ('S002', 'Electronic devices company', '0531377885');
INSERT INTO supplies VALUES ('S003', 'Accessories company', '0557722335');
INSERT INTO supplies VALUES ('S004', 'Footwear company', '0505724666');
INSERT INTO supplies VALUES ('S005', 'Travel Accessories company', '0555123999');
```

SUPPLIESID	NAME	CONTACTINFO
S001	Bags company	0557665544
S002	Electronic devices company	0531377885
S003	Accessories company	0557722335
S004	Footwear company	0505724666
S005	Travel Accessories company	0555123999

Reviews table

```
CREATE TABLE Reviews (
    ReviewID CHAR(5),
    ProductID CHAR(5),
    CustomerID CHAR(5),
    Rating INT,
    CHECK(Rating BETWEEN 1 AND 5),
    Feedback VARCHAR(100),
    Constraint Reviews primary key (ReviewID),
    Constraint fk_prod FOREIGN KEY (ProductID) REFERENCES Products (ProductID),
    Constraint fk_cust FOREIGN KEY (CustomerID) REFERENCES Customers(CustomerID) );
```

```
INSERT INTO Reviews VALUES ('R001', 'P009', 'C001', 4, 'Great product! ');
INSERT INTO Reviews VALUES ('R002', 'P003', 'C002', 5, 'Excellent service and quality. ');
INSERT INTO Reviews VALUES ('R003', 'P005', 'C003', 3, 'Average experience, could be better. ');
INSERT INTO Reviews VALUES ('R004', 'P001', 'C004', 5, 'Totally satisfied, exceeded expectations. ');
INSERT INTO Reviews VALUES ('R005', 'P007', 'C005', 2, 'Disappointed with the product quality.');
```

ReviewID	ProductID	CustomerID	Rating	Feedback
R001	P009	C001	4	Great product!
R002	P003	C002	5	Excellent service and quality.
R003	P005	C003	3	Average experience, could be better.
R004	P001	C004	5	Totally satisfied, exceeded expectations.
R005	P007	C005	2	Disappointed with the product quality.

Shipping table

```
CREATE TABLE Shipping (
    ShippingID CHAR(5),
    OrderID char(5),
    ShippingDate DATE,
    Constraint Shipping primary key (ShippingID),
    CONSTRAINT FK_OrderID FOREIGN KEY (OrderID) REFERENCES Orders(OrderID));
```

```
INSERT INTO Shipping VALUES ('S001', '0001', '04-15-2024');
INSERT INTO Shipping VALUES ('S003', '0003', '04-12-2024');
INSERT INTO Shipping VALUES ('S004', '0004', '04-15-2024');
INSERT INTO Shipping VALUES ('S005', '0005', '03-23-2024');
INSERT INTO Shipping VALUES ('S006', '0006', '04-14-2024');
```

SHIPPINGID	ORDERID	SHIPPINGDATE
S004	0004	04/15/2024
S001	0001	04/15/2024
S003	0003	04/12/2024
S005	0005	03/23/2024
S006	0006	04/14/2024

Payment table

```
CREATE TABLE Payment (
    PaymentID CHAR(5),
    OrderID char(5),
    PaymentDate DATE,
    Amount DECIMAL(6,2) not null,
    CHECK(Amount >=0 ),
    PaymentMethod VARCHAR(50) not null,
    Constraint Payment primary key (PaymentID),
    CONSTRAINT FK_OrdID FOREIGN KEY (OrderID) REFERENCES Orders(OrderID));
```

```
INSERT INTO Payment VALUES ('P001', '0001', '04-12-2024', 850.00, 'Credit Card');
INSERT INTO Payment VALUES ('P002', '0002', '04-10-2024', 500.00, 'PayPal');
INSERT INTO Payment VALUES ('P003', '0003', '03-30-2024', 160.00, 'Bank Transfer');
INSERT INTO Payment VALUES ('P004', '0004', '04-19-2024', 1200.00, 'Cash');
INSERT INTO Payment VALUES ('P005', '0005', '03-20-2024', 40.00, 'Credit Card');
INSERT INTO Payment VALUES ('P006', '0006', '04-13-2024', 90.00, 'PayPal');
INSERT INTO Payment VALUES ('P007', '0007', '04-11-2024', 480.00, 'Credit Card');
```

PAYMENTID	ORDERID	PAYMENTDATE	AMOUNT	PAYMENTMETHOD
P001	O001	04/12/2024	850	Credit Card
P002	O002	04/10/2024	500	PayPal
P003	O003	03/30/2024	160	Bank Transfer
P004	O004	04/19/2024	1200	Cash
P005	O005	03/20/2024	40	Credit Card
P006	O006	04/13/2024	90	PayPal
P007	O007	04/11/2024	480	Credit Card

This view combines data from the Orders and Customers tables to provide a view of customer orders. It includes details such as order ID, customer ID, customer name, order date, status ,and total amountmust be ≥ 150 .

```
CREATE VIEW CustomerOrderView AS
SELECT Orders.OrderID,Customers.CustomerID,CONCAT(Customers.FirstName, Customers.LastName)
AS CustomerName,Orders.OrderDate,Orders.TotalAmount,Orders.Status
FROM Orders INNER JOIN Customers ON Orders.CustomerID = Customers.CustomerID
where orders.TotalAmount >=150
with check option;
```

ORDERID	CUSTOMERID	CUSTOMERNAME	ORDERDATE	TOTALAMOUNT	STATUS
0001	C001	AhmedAli	04/12/2024	150	Shipped
0002	C002	FatimaMohamed	04/10/2024	220.5	Confirmed
0003	C003	MahmoudKhalil	03/30/2024	180	Shipped
0005	C005	LaylaAhmed	03/20/2024	320	Delivered
0007	C007	ReemAli	04/11/2024	200	Confirmed

This view merges information from the Products and Categories tables to display product details with their product ID, name, description, price, and category name not in bags.

```
CREATE VIEW ProductCategoryView AS
SELECT Products.ProductID,Products.Name AS ProductName,Products.Description,Products.Price,Categories.Name AS CategoryName
FROM Products INNER JOIN Categories ON Products.CategoryID = Categories.CategoryID
WHERE Categories.Name NOT LIKE 'Bags%'
with check option;
```

PRODUCTID	PRODUCTNAME	DESCRIPTION	PRICE	CATEGORYNAME
P001	Laptop	High-performance laptop with the latest processor	1200	Electronics
P002	Smartphone	Smartphone with advanced features	800	Electronics
P003	Watch	Stylish and durable watch with smart features	150	Accessories
P005	Sneakers	Comfortable and stylish sneakers for everyday wear	80	Footwear
P008	Running Shoes	Lightweight running shoes designed for speed and comfort	120	Footwear
P009	Desk Organizer	Multi-compartment desk organizer for keeping stationery items tidy	25	Home & Office
P006	Desk Lamp	Adjustable desk lamp with LED lighting for workspace illumination	30	Home & Office
P007	Travel Mug	Insulated travel mug to keep beverages hot or cold on the go	20	Travel Accessories

This view provides a summary of each order, including the total number of items, total price, maximum, minimum, and average product prices between 0 and 200.



```
CREATE VIEW OrderSummaryView AS
SELECT Orders.OrderID,COUNT(OrderDetails.OrderDetailID)
     AS TotalItems,SUM(OrderDetails.Quantity * OrderDetails.Price)
     AS TotalPrice,MAX(Products.Price) AS MaxProductPrice,MIN(Products.Price)
     AS MinProductPrice, AVG(Products.Price) AS AvgProductPrice
FROM Orders INNER JOIN OrderDetails ON Orders.OrderID = OrderDetails.OrderID INNER JOIN Products ON OrderDetails.ProductID = Products.ProductID
GROUP BY Orders.OrderID
having AVG(Products.Price) between 0 and 200
with check option;
```

ORDERID	TOTALITEMS	TOTALPRICE	MAXPRODUCTPRICE	MINPRODUCTPRICE	AVGPRODUCTPRICE
O007	1	1920	120	120	120
O003	1	320	80	80	80
O006	1	270	30	30	30
O002	2	1400	150	50	100
O005	1	80	20	20	20

This view lists shipped orders along with customer details, order date, total amount, and status must be shipped.

```
CREATE VIEW ShippedOrdersView AS
SELECT Orders.OrderID,CONCAT(Customers.FirstName, Customers.LastName) AS CustomerName, Orders.OrderDate,Orders.TotalAmount,Orders.Status
FROM Orders INNER JOIN Customers ON Orders.CustomerID = Customers.CustomerID
WHERE Orders.Status = 'Shipped'
with check option;
```

ORDERID	CUSTOMERNAME	ORDERDATE	TOTALAMOUNT	STATUS
O001	AhmedAli	04/12/2024	150	Shipped
O003	MahmoudKhalil	03/30/2024	180	Shipped
O004	NourAbdullah	04/14/2024	90.75	Shipped
O006	MohamedKhalid	04/13/2024	75.25	Shipped

This view lists products with high average ratings (3 or above). It selects product ID, name, description, and price for products with an average rating equal to or greater than 3.

```
CREATE VIEW HighRatedProductsView AS
SELECT ProductID, Name AS ProductName, Description, Price
FROM Products natural join REVIEWS
WHERE Rating >= 3
with check option;
```

PRODUCTID	PRODUCTNAME	DESCRIPTION	PRICE
P001	Laptop	High-performance laptop with the latest processor	1200
P003	Watch	Stylish and durable watch with smart features	150
P005	Sneakers	Comfortable and stylish sneakers for everyday wear	80
P009	Desk Organizer	Multi-compartment desk organizer for keeping stationery items tidy	25

This view displays new orders that have been Confirmed. It selects order ID, customer ID, order date, total amount, and status for orders with a status of 'Confirmed'.

```
CREATE VIEW NewOrdersView AS  
SELECT OrderID, CustomerID, OrderDate, TotalAmount, Status  
FROM Orders  
WHERE Status = 'Confirmed'  
with check option;
```

ORDERID	CUSTOMERID	ORDERDATE	TOTALAMOUNT	STATUS
O002	C002	04/10/2024	220.5	Confirmed
O007	C007	04/11/2024	200	Confirmed

"What are the names of customers who placed orders between January 1, 2024, and March 31, 2024, along with the order dates, listed in descending order of the order dates?"

```
SELECT Customers.FirstName ,Customers.LastName, Orders.OrderDate  
FROM Customers LEFT JOIN Orders ON Customers.CustomerID = Orders.CustomerID  
WHERE Orders.OrderDate BETWEEN '01-01-2024' AND '03-31-2024'  
ORDER BY Orders.OrderDate DESC;
```

FIRSTNAME	LASTNAME	ORDERDATE
Mahmoud	Khalil	03/30/2024
Layla	Ahmed	03/20/2024

"What are the names of categories and corresponding products that have a price between \$100 and \$1000?"

```
SELECT categories.name as category_name, products.name as product_name  
from categories  
join products on categories.categoryID = products.categoryID  
where price between 100 and 1000;
```

CATEGORY_NAME	PRODUCT_NAME
Accessories	Watch
Electronics	Smartphone
Footwear	Running Shoes

"What is the total number of products in each category?"

```
SELECT Categories.Name AS Category, COUNT(Products.ProductID) AS ProductCount  
FROM Categories RIGHT JOIN Products ON Categories.CategoryID = Products.CategoryID  
GROUP BY Categories.Name;
```

CATEGORY	PRODUCTCOUNT
Footwear	2
Home & Office	2
Accessories	1
Electronics	2
Travel Accessories	1
Bags	2

"What is the average price of products in each category, and what is the price category (Low, Medium, or High) for each category based on the average price?"

```
SELECT CategoryID, AVG(Price) AS AvgPrice,  
CASE  
WHEN AVG(Price) < 50 THEN 'Low'  
WHEN AVG(Price) >= 50 AND AVG(Price) <= 100 THEN 'Medium'  
ELSE 'High'  
END AS PriceCategory  
FROM Products  
GROUP BY CategoryID;
```

CATEGORYID	AVGPRICE	PRICECATEGORY
C5	27.5	Low
C4	100	Medium
C2	150	High
C1	1000	High
C6	20	Low
C3	45	Low

"What are the order IDs and corresponding shipping dates for all orders that have a status of 'Shipped'?"

```
SELECT O.OrderID, S.ShippingDate  
FROM Orders O LEFT JOIN Shipping S ON O.OrderID = S.OrderID  
where o.STATUS = 'Shipped' ;
```

ORDERID	SHIPPINGDATE
0001	04/15/2024
0003	04/12/2024
0004	04/15/2024
0006	04/14/2024

"What is the new salary (including a 5% increase) for each employee, and what is the list of employees in order of their new salary?"

```
SELECT FirstName, LastName, SUM(Salary + Salary*0.05 ) AS NewSalary  
FROM Employees  
GROUP BY FirstName, LastName  
ORDER BY NewSalary ;
```

FIRSTNAME	LASTNAME	NEWSALARY
Reem	Ali	2940
Fatima	Mohamed	3150.525
Mohamed	Khalid	3360.2625
Nour	Abdullah	3675.7875
Layla	Ahmed	3990
Mahmoud	Khalil	4200
Ahmed	Ali	5250

"What are the names and order dates of all customers who have an address in Riyadh?"

```
SELECT Customers.FirstName, Customers.LastName, Orders.OrderDate  
FROM Customers LEFT JOIN Orders ON Customers.CustomerID = Orders.CustomerID  
WHERE Customers.Address LIKE '%Riyadh%';
```

FIRSTNAME	LASTNAME	ORDERDATE
Ahmed	Ali	04/12/2024

"What is the total amount of each order, along with the customer's first and last name, for all customers whose last name does not contain the letter 'M'?"

```
SELECT O.OrderID, C.FirstName, C.LastName, SUM(OD.Quantity * OD.Price) AS TotalAmount
FROM Orders O INNER JOIN Customers C ON O.CustomerID = C.CustomerID INNER JOIN OrderDetails OD ON O.OrderID =
OD.OrderID
where C.LastName not like '%m%'
GROUP BY O.OrderID, C.FirstName, C.LastName;
```

ORDERID	FIRSTNAME	LASTNAME	TOTALAMOUNT
O006	Mohamed	Khalid	270
O001	Ahmed	Ali	900
O007	Reem	Ali	1920
O003	Mahmoud	Khalil	320
O004	Nour	Abdullah	1200

"What are the category IDs and average prices of all product categories that have an average price greater than \$100?"

```
SELECT CategoryID, AVG(Price) AS AvgPrice  
FROM Products  
GROUP BY CategoryID  
HAVING AVG(Price) > 100;
```

CATEGORYID	AVGPRICE
C2	150
C1	1000

"What is the rating category (Good, Average, or Bad) for each review, based on the rating score?"

```
SELECT REVIEWID,  
CASE  
WHEN rating >= 4 THEN 'Good'  
WHEN rating >= 2 THEN 'Average'  
ELSE 'Bad'  
END AS rating_category  
FROM Reviews;
```

REVIEWID	RATING_CATEGORY
R001	Good
R002	Good
R003	Average
R004	Good
R005	Average

""What are the order IDs, customer names, and order dates for all orders that have a status of 'Delivered'?"

```
SELECT Orders.OrderID, Customers.FirstName, Customers.LastName, Orders.OrderDate  
FROM Orders JOIN Customers ON Orders.CustomerID = Customers.CustomerID  
WHERE Orders.Status = 'Delivered';
```

ORDERID	FIRSTNAME	LASTNAME	ORDERDATE
0005	Layla	Ahmed	03/20/2024

"What are the names and email addresses of all customers who have a Gmail email address, listed in alphabetical order by last name and then first name?"

```
SELECT FirstName, LastName, Email  
FROM Customers  
WHERE Email LIKE '%@gmail.com'  
ORDER BY LastName, FirstName;
```

FIRSTNAME	LASTNAME	EMAIL
Nour	Abdullah	nourAbdullah@gmail.com
Ahmed	Ali	ahmed111@gmail.com
Reem	Ali	reem1212@gmail.com
Mohamed	Khalid	mohamedKH2@gmail.com
Mahmoud	Khalil	mahmoud999@gmail.com

"What are the average salary , maximum salary ,
minimum salary ?"

```
SELECT AVG(Salary)AS AvgSalary, MAX(Salary) AS MaxSalary, MIN(Salary) AS MinSalary  
FROM Employees;
```

AVGSALARY	MAXSALARY	MINSALARY
3614.5	5000	2800

"What are the employee IDs, first names, and last names of all employees who have a salary greater than \$3500, listed in order of their employee IDs?"

```
select employeeId, firstname, lastname  
from employees  
where salary > 3500  
order by employeeId;
```

EMPLOYEEID	FIRSTNAME	LASTNAME
E001	Ahmed	Ali
E003	Mahmoud	Khalil
E004	Nour	Abdullah
E005	Layla	Ahmed

"What are the IDs, first names, and last names of all customers who have written at least one review with a rating of 3 or less?"

```
SELECT CustomerID, FirstName, LastName  
FROM Customers  
WHERE CustomerID IN  
(SELECT CustomerID  
FROM Reviews  
WHERE rating <=3 );
```

CUSTOMERID	FIRSTNAME	LASTNAME
C003	Mahmoud	Khalil
C005	Layla	Ahmed

"What are the ProductID, Name, and PriceCategory for each product in the Products table, where products with a price greater than 500 are categorized as 'Expensive' and the rest as 'Affordable'?"

```
SELECT ProductID, Name,  
CASE  
WHEN Price > 500 THEN 'Expensive'  
ELSE 'Affordable'  
END AS PriceCategory  
FROM Products;
```

PRODUCTID	NAME	PRICECATEGORY
P010	Tote Bag	Affordable
P009	Desk Organizer	Affordable
P006	Desk Lamp	Affordable
P005	Sneakers	Affordable
P004	Backpack	Affordable
P003	Watch	Affordable
P002	Smartphone	Expensive
P008	Running Shoes	Affordable
P007	Travel Mug	Affordable
P001	Laptop	Expensive

Which employees have a salary greater than 3700, and what are their first and last names?

```
SELECT FirstName, LastName  
FROM employees  
WHERE Salary > 3700;
```

FIRSTNAME	LASTNAME
Ahmed	Ali
Mahmoud	Khalil
Layla	Ahmed

"What is the list of all categories, in alphabetical order?"

```
SELECT *  
FROM Categories  
ORDER BY Name ASC;
```

CategoryID	Name
C2	Accessories
C3	Bags
C1	Electronics
C4	Footwear
C5	Home & Office
C6	Travel Accessories

"What are the details of all payments that are between \$100 and \$500?"

```
SELECT *
FROM Payment
WHERE Amount BETWEEN 100 AND 500;
```

PAYMENTID	ORDERID	PAYMENTDATE	AMOUNT	PAYMENTMETHOD
P002	O002	04/10/2024	500	PayPal
P007	O007	04/11/2024	480	Credit Card
P003	O003	03/30/2024	160	Bank Transfer

"What are the details of all shipments that were sent before October 1, 2024?"

```
SELECT *
FROM Shipping
WHERE ShippingDate < '10-01-2024';
```

SHIPPINGID	ORDERID	SHIPPINGDATE
S001	O001	04/15/2024
S003	O003	04/12/2024
S004	O004	04/15/2024
S005	O005	03/23/2024
S006	O006	04/14/2024

"What are the details of all customers who have an address in Buraidah?"

```
select *  
from customers  
where Address like '%Buraidah'
```

CUSTOMERID	FIRSTNAME	LASTNAME	EMAIL	ADDRESS	PHONE NUMBER
C003	Mahmoud	Khalil	mahmoud999@gmail.com	King Abdulaziz Road - Buraidah	0555441288
C004	Nour	Abdullah	nourAbdullah@gmail.com	King Fahd bin Abdulaziz Road - Buraidah	0556665890

"What are the details of all orders with a total amount between \$100 and \$300?"

```
SELECT *
FROM Orders
WHERE TotalAmount BETWEEN 100 AND 300;
```

OrderID	CustomerID	OrderDate	TotalAmount	Status
O001	C001	04/12/2024	150	Shipped
O003	C003	03/30/2024	180	Shipped
O007	C007	04/11/2024	200	Confirmed
O002	C002	04/10/2024	220.5	Confirmed

"What are the details of all reviews with a rating greater than 3?"

```
SELECT *  
FROM Reviews  
WHERE Rating > 3;
```

REVIEWID	PRODUCTID	CUSTOMERID	RATING	FEEDBACK
R001	P009	C001	4	Great product!
R004	P001	C004	5	Totally satisfied, exceeded expectations.
R002	P003	C002	5	Excellent service and quality.

"What are the details of all products that have
'Desk' in their name?"

SELECT *

FROM Products

WHERE Name LIKE '%Desk%';

PRODUCTID	NAME	DESCRIPTION	PRICE	CATEGORYID
P009	Desk Organizer	Multi-compartment desk organizer for keeping stationery items tidy	25	C5
P006	Desk Lamp	Adjustable desk lamp with LED lighting for workspace illumination	30	C5

"What are the details of all orders with a total amount less than \$100?"

SELECT *

FROM Orders

WHERE TotalAmount < 100;

ORDERID	CUSTOMERID	ORDERDATE	TOTALAMOUNT	STATUS
O006	C006	04/13/2024	75.25	Shipped
O004	C004	04/14/2024	90.75	Shipped



"What are the details of all orders that have a status of 'Confirmed'?"

```
select *  
from Orders  
where status = 'Confirmed';
```

ORDERID	CUSTOMERID	ORDERDATE	TOTALAMOUNT	STATUS
O007	C007	04/11/2024	200	Confirmed
O002	C002	04/10/2024	220.5	Confirmed

"What are the details of all products that have a price between \$100 and \$500?"

select *

from products

where price between 100 and 500;

PRODUCTID	NAME	DESCRIPTION	PRICE	CATEGORYID
P003	Watch	Stylish and durable watch with smart features	150	C2
P008	Running Shoes	Lightweight running shoes designed for speed and comfort	120	C4

"What are the details of all orders, including the customer information, for each order?"

SELECT *

FROM Orders NATURAL JOIN Customers;

CUSTOMERID	ORDERID	ORDERDATE	TOTALAMOUNT	STATUS	FIRSTNAME	LASTNAME	EMAIL	ADDRESS	PHONE NUMBER
C006	O006	04/13/2024	75.25	Shipped	Mohamed	Khalid	mohamedKH2@gmail.com	King Fahd bin Abdulaziz Road - Unizah	0543885511
C005	O005	03/20/2024	320	Delivered	Layla	Ahmed	layla22@hotmail.com	King Abdulaziz Road - Al-Rass	0555432177
C003	O003	03/30/2024	180	Shipped	Mahmoud	Khalil	mahmoud999@gmail.com	King Abdulaziz Road - Buraidah	0555441288
C002	O002	04/10/2024	220.5	Confirmed	Fatima	Mohamed	fatima656@hotmail.com	King Salman Road - Al-Rass	0557659988
C007	O007	04/11/2024	200	Confirmed	Reem	Ali	reem1212@gmail.com	Medina Road - Unizah	0551122883
C004	O004	04/14/2024	90.75	Shipped	Nour	Abdullah	nourAbdullah@gmail.com	King Fahd bin Abdulaziz Road - Buraidah	0556665890
C001	O001	04/12/2024	150	Shipped	Ahmed	Ali	ahmed111@gmail.com	King Fahd Road - Riyadh	0543933764

"What are the details of all products, listed in alphabetical order by name?"

SELECT *

FROM Products

ORDER BY Name ASC;

PRODUCTID	NAME	DESCRIPTION	PRICE	CATEGORYID
P004	Backpack	Spacious and ergonomic backpack for everyday use	50	C3
P006	Desk Lamp	Adjustable desk lamp with LED lighting for workspace illumination	30	C5
P009	Desk Organizer	Multi-compartment desk organizer for keeping stationery items tidy	25	C5
P001	Laptop	High-performance laptop with the latest processor	1200	C1
P008	Running Shoes	Lightweight running shoes designed for speed and comfort	120	C4
P002	Smartphone	Smartphone with advanced features	800	C1
P005	Sneakers	Comfortable and stylish sneakers for everyday wear	80	C4
P010	Tote Bag	Fashionable tote bag made from durable canvas material	40	C3
P007	Travel Mug	Insulated travel mug to keep beverages hot or cold on the go	20	C6
P003	Watch	Stylish and durable watch with smart features	150	C2

"What are the details of all customers with
IDs between 'C002' and 'C005'?"

SELECT *

FROM Customers

WHERE CustomerID BETWEEN 'C002' AND 'C005';

CUSTOMERID	FIRSTNAME	LASTNAME	EMAIL	ADDRESS	PHONE NUMBER
C002	Fatima	Mohamed	fatima656@hotmail.com	King Salman Road - Al-Rass	0557659988
C003	Mahmoud	Khalil	mahmoud999@gmail.com	King Abdulaziz Road - Buraidah	0555441288
C004	Nour	Abdullah	nourAbdullah@gmail.com	King Fahd bin Abdulaziz Road - Buraidah	0556685890
C005	Layla	Ahmed	layla22@hotmail.com	King Abdulaziz Road - Al-Rass	0555432177

"What are the details of all supplies, listed in alphabetical order by name?"

```
SELECT *  
FROM SUPPLIES  
ORDER BY name ASC;
```

SUPPLIESID	NAME	CONTACTINFO
S003	Accessories company	0557722335
S001	Bags company	0557665544
S002	Electronic devices company	0531377885
S004	Footwear company	0505724666
S005	Travel Accessories company	0555123999

"What are the details of all products that have a price greater than \$200?"

```
SELECT *  
FROM Products  
WHERE Price > 200;
```

PRODUCTID	NAME	DESCRIPTION	PRICE	CATEGORYID
P002	Smartphone	Smartphone with advanced features	800	C1
P001	Laptop	High-performance laptop with the latest processor	1200	C1

"What is the total number of orders and total amount spent by each customer?"

```
SELECT O.CustomerID, COUNT(*) AS TotalOrders, SUM(O.TotalAmount) AS TotalAmount  
FROM Orders O  
GROUP BY O.CustomerID;
```

CUSTOMERID	TOTALORDERS	TOTALAMOUNT
C005	1	320
C001	1	150
C007	1	200
C006	1	75.25
C003	1	180
C002	1	220.5
C004	1	90.75

"What are the details of all reviews that have a 5-star rating?"

SELECT *

FROM Reviews

WHERE rating = 5;

REVIEWID	PRODUCTID	CUSTOMERID	RATING	FEEDBACK
R004	P001	C004	5	Totally satisfied, exceeded expectations.
R002	P003	C002	5	Excellent service and quality.

"What are the details of all reviews, along with the corresponding order information, for each customer?"

SELECT * FROM Reviews

INNER JOIN Orders ON Reviews.CUSTOMERID = Orders.CUSTOMERID;

REVIEWID	PRODUCTID	CUSTOMERID	RATING	FEEDBACK	ORDERID	CUSTOMERID	ORDERDATE	TOTALAMOUNT	STATUS
R001	P009	C001	4	Great product!	O001	C001	04/12/2024	150	Shipped
R003	P005	C003	3	Average experience, could be better.	O003	C003	03/30/2024	180	Shipped
R005	P007	C005	2	Disappointed with the product quality.	O005	C005	03/20/2024	320	Delivered
R002	P003	C002	5	Excellent service and quality.	O002	C002	04/10/2024	220.5	Confirmed
R004	P001	C004	5	Totally satisfied, exceeded expectations.	O004	C004	04/14/2024	90.75	Shipped

"What are the details of all orders, including any corresponding shipping information, and vice versa?"

SELECT *

FROM Orders O FULL JOIN Shipping S ON O.OrderID = S.OrderID;

OrderID	CustomerID	OrderDate	TotalAmount	Status	ShippingID	OrderID	ShippingDate
O001	C001	04/12/2024	150	Shipped	S001	O001	04/15/2024
O003	C003	03/30/2024	180	Shipped	S003	O003	04/12/2024
O005	C005	03/20/2024	320	Delivered	S005	O005	03/23/2024
O006	C006	04/13/2024	75.25	Shipped	S006	O006	04/14/2024
O007	C007	04/11/2024	200	Confirmed	-	-	-
O002	C002	04/10/2024	220.5	Confirmed	-	-	-
O004	C004	04/14/2024	90.75	Shipped	S004	O004	04/15/2024

"If the current price of a product is higher than the average price of all products, increase its price by 10%. Otherwise, increase its price by 5%."

UPDATE Products

SET Price =

CASE

WHEN Price > (SELECT AVG(Price)

FROM Products)

THEN Price * 1.1

ELSE Price * 1.05

END;

PRODUCTID	NAME	DESCRIPTION	PRICE	CATEGORYID
P001	Laptop	High-performance laptop with the latest processor	1320	C1
P002	Smartphone	Smartphone with advanced features	880	C1
P003	Watch	Stylish and durable watch with smart features	157.5	C2
P004	Backpack	Spacious and ergonomic backpack for everyday use	52.5	C3
P005	Sneakers	Comfortable and stylish sneakers for everyday wear	84	C4
P006	Desk Lamp	Adjustable desk lamp with LED lighting for workspace illumination	31.5	C5
P007	Travel Mug	Insulated travel mug to keep beverages hot or cold on the go	21	C6
P008	Running Shoes	Lightweight running shoes designed for speed and comfort	126	C4
P009	Desk Organizer	Multi-compartment desk organizer for keeping stationery items tidy	26.25	C5
P010	Tote Bag	Fashionable tote bag made from durable canvas material	42	C3



"Write a SQL query to give a 5% salary increase to all employees in the 'employees' table who hold the position of 'Warehouse Manager'."

```
UPDATE employees  
SET Salary = Salary * 1.05  
WHERE Position = 'Warehouse Manager';
```

EMPLOYEEID	FIRSTNAME	LASTNAME	POSITION	SALARY
E001	Ahmed	Ali	E-commerce Manager	5000
E002	Fatima	Mohamed	Customer Service	3000.5
E003	Mahmoud	Khalil	Warehouse Manager	4200
E004	Nour	Abdullah	Logistics Expert	3500.75
E005	Layla	Ahmed	Marketing Specialist	3800
E006	Mohamed	Khalid	Content Writer	3200.25
E007	Reem	Ali	Product Photographer	2800

"Write a SQL query to update the status of the order with OrderID '0001' in the 'Orders' table to 'Delivered'."

```
update Orders  
set status = 'Delivered'  
where OrderID = '0001';
```

ORDERID	CUSTOMERID	ORDERDATE	TOTALAMOUNT	STATUS
0001	C001	04/12/2024	150	Delivered
0003	C003	03/30/2024	180	Shipped
0005	C005	03/20/2024	320	Delivered
0006	C006	04/13/2024	75.25	Shipped
0007	C007	04/11/2024	200	Confirmed
0002	C002	04/10/2024	220.5	Confirmed
0004	C004	04/14/2024	90.75	Shipped

"Write a SQL query to update the feedback of all reviews in the 'Reviews' table to 'Awesome product!' where the rating is 4."

UPDATE Reviews

SET FEEDBACK= 'Awesome product!'

WHERE RATING= 4;

REVIEWID	PRODUCTID	CUSTOMERID	RATING	FEEDBACK
R001	P009	C001	4	Awesome product!
R003	P005	C003	3	Average experience, could be better.
R004	P001	C004	5	Totally satisfied, exceeded expectations.
R002	P003	C002	5	Excellent service and quality.
R005	P007	C005	2	Disappointed with the product quality.

"Write a SQL query to update the contact information of the supplier with SUPPLIESID 'S001' in the 'SUPPLIES' table to the phone number '0557665599'."

```
update SUPPLIES  
set CONTACTINFO= '0557665599'  
where SUPPLIESID= 'S001';
```

SUPPLIESID	NAME	CONTACTINFO
S001	Bags company	0557665599
S002	Electronic devices company	0531377885
S004	Footwear company	0505724666
S003	Accessories company	0557722335
S005	Travel Accessories company	0555123999

"Write a SQL query to update the email address of the customer with CustomerID 'C003' in the 'Customers' table to 'newemail@example.com'."

UPDATE Customers

SET Email = 'newemail@example.com'

WHERE CustomerID = 'C003';

CUSTOMERID	FIRSTNAME	LASTNAME	EMAIL	ADDRESS	PHONE NUMBER
C006	Mohamed	Khalid	mohamedKH2@gmail.com	King Fahd bin Abdulaziz Road - Unizah	0543885511
C005	Layla	Ahmed	layla22@hotmail.com	King Abdulaziz Road - Al-Rass	0555432177
C003	Mahmoud	Khalil	newemail@example.com	King Abdulaziz Road - Buraidah	0555441288
C002	Fatima	Mohamed	fatima656@hotmail.com	King Salman Road - Al-Rass	0557659988
C007	Reem	Ali	reem1212@gmail.com	Medina Road - Unizah	0551122883
C004	Nour	Abdullah	nourAbdullah@gmail.com	King Fahd bin Abdulaziz Road - Buraidah	0556665890
C001	Ahmed	Ali	ahmed111@gmail.com	King Fahd Road - Riyadh	0543933764

"Write a SQL query to delete all reviews from the 'Reviews' table that are associated with products in the category with CATEGORYID 'C1'."

```
DELETE FROM Reviews  
WHERE ProductID IN  
(SELECT ProductID  
FROM Products  
WHERE CATEGORYID= 'C1');
```

REVIEWID	PRODUCTID	CUSTOMERID	RATING	FEEDBACK
R001	P009	C001	4	Awesome product!
R003	P005	C003	3	Average experience, could be better.
R002	P003	C002	5	Excellent service and quality.
R005	P007	C005	2	Disappointed with the product quality.

"Write a SQL query to delete all reviews from the 'Reviews' table that have a rating less than 3."

DELETE FROM Reviews

WHERE Rating < 3;

REVIEWID	PRODUCTID	CUSTOMERID	RATING	FEEDBACK
R001	P009	C001	4	Awesome product!
R003	P005	C003	3	Average experience, could be better.
R002	P003	C002	5	Excellent service and quality.

"Write a SQL query to remove all employees from the 'employees' table who have a salary of 5000."

```
DELETE FROM employees  
where salary = 5000;
```

EMPLOYEEID	FIRSTNAME	LASTNAME	POSITION	SALARY
E002	Fatima	Mohamed	Customer Service	3000.5
E003	Mahmoud	Khalil	Warehouse Manager	4200
E004	Nour	Abdullah	Logistics Expert	3500.75
E005	Layla	Ahmed	Marketing Specialist	3800
E006	Mohamed	Khalid	Content Writer	3200.25
E007	Reem	Ali	Product Photographer	2800

"Write a SQL query to delete all payment records from the 'Payment' table where the payment method is 'Cash'."

DELETE FROM Payment

where PAYMENTMETHOD = 'Cash';

PAYMENTID	ORDERID	PAYMENTDATE	AMOUNT	PAYMENTMETHOD
P001	O001	04/12/2024	850	Credit Card
P002	O002	04/10/2024	500	PayPal
P007	O007	04/11/2024	480	Credit Card
P003	O003	03/30/2024	160	Bank Transfer
P005	O005	03/20/2024	40	Credit Card
P006	O006	04/13/2024	90	PayPal

"How would you modify the table name from 'Products' to 'AllProducts' using a SQL query?"

ALTER TABLE Products

RENAME TO AllProducts ;

ALLPRODUCTS					
Data	Indexes	Model	Constraints	Grants	Statistics
UI Defaults		Triggers	Dependencies	SQL	
Count Rows Insert Row					
PRODUCTID	NAME	DESCRIPTION			PRICE
P001	Laptop	High-performance laptop with the latest processor			1320
P002	Smartphone	Smartphone with advanced features			880
P003	Watch	Stylish and durable watch with smart features			157.5
P004	Backpack	Spacious and ergonomic backpack for everyday use			52.5
P005	Sneakers	Comfortable and stylish sneakers for everyday wear			84
P006	Desk Lamp	Adjustable desk lamp with LED lighting for workspace illumination			31.5
P007	Travel Mug	Insulated travel mug to keep beverages hot or cold on the go			21
P008	Running Shoes	Lightweight running shoes designed for speed and comfort			126
P009	Desk Organizer	Multi-compartment desk organizer for keeping stationery items tidy			26.25
P010	Tote Bag	Fashionable tote bag made from durable canvas material			42
CATEGORYID					

"What SQL command would you use to add a new column named 'Stock' to the 'Products' table, with a default value of 0 ?"

ALTER TABLE Products

ADD Stock INT DEFAULT 0;

PRODUCTID	NAME	DESCRIPTION	PRICE	CATEGORYID	STOCK
P001	Laptop	High-performance laptop with the latest processor	1320	C1	0
P002	Smartphone	Smartphone with advanced features	880	C1	0
P003	Watch	Stylish and durable watch with smart features	157.5	C2	0
P004	Backpack	Spacious and ergonomic backpack for everyday use	52.5	C3	0
P005	Sneakers	Comfortable and stylish sneakers for everyday wear	84	C4	0
P006	Desk Lamp	Adjustable desk lamp with LED lighting for workspace illumination	31.5	C5	0
P007	Travel Mug	Insulated travel mug to keep beverages hot or cold on the go	21	C6	0
P008	Running Shoes	Lightweight running shoes designed for speed and comfort	126	C4	0
P009	Desk Organizer	Multi-compartment desk organizer for keeping stationery items tidy	26.25	C5	0
P010	Tote Bag	Fashionable tote bag made from durable canvas material	42	C3	0

"How would you rename the 'supplies' table to 'Suppliers' to better reflect the data it contains?"

ALTER TABLE supplies

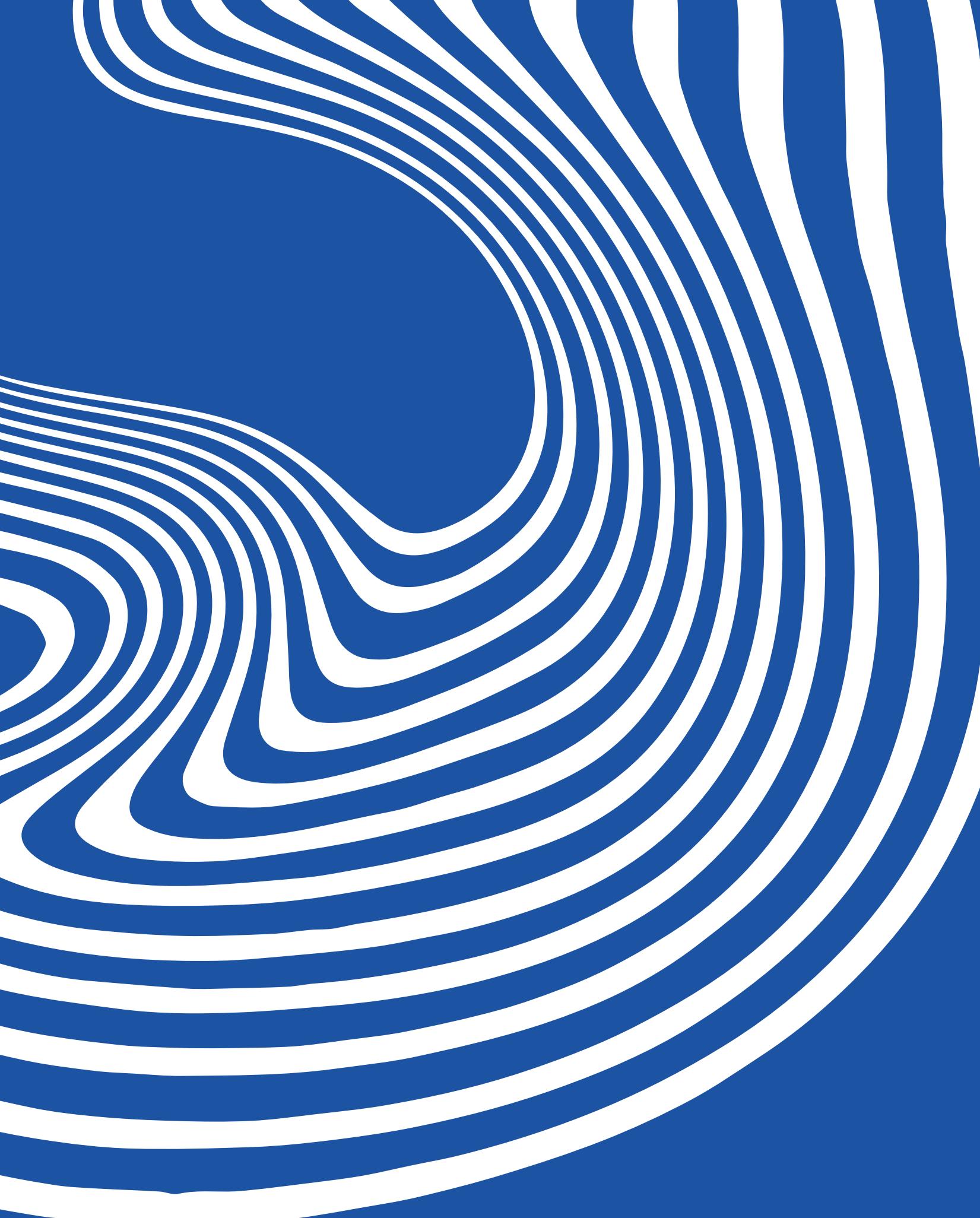
RENAME TO Suppliers;

SUPPLIERS		
Data	Indexes	Model
Constraints	Grants	Statistics
UI Defaults	Triggers	Dependencies
Count Rows	Insert Row	
SUPPLIESID	NAME	CONTACTINFO
S001	Bags company	0557665544
S002	Electronic devices company	0531377885
S003	Accessories company	0557722335
S004	Footwear company	0505724666
S005	Travel Accessories company	0555123999

"What SQL command would you use to add a new column to the 'Categories' table to store additional details about each category, with a maximum length of 255 characters ?"

```
ALTER TABLE Categories  
ADD details VARCHAR(255);
```

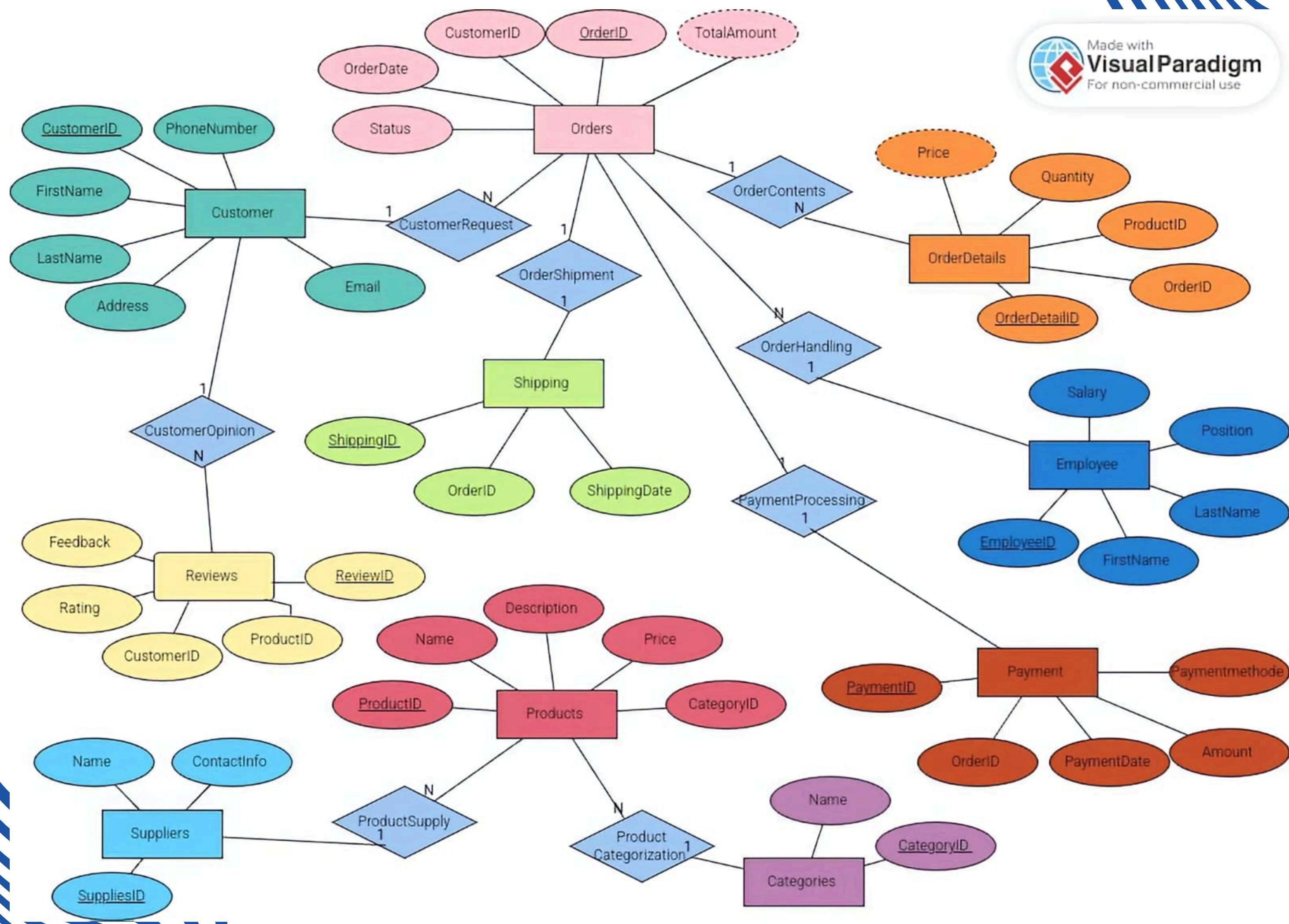
Column Name	Data Type	Nullable	Default	Primary Key
CATEGORYID	CHAR(2)	No	-	1
NAME	VARCHAR2(20)	No	-	-
DETAILS	VARCHAR2(255)	Yes	-	-

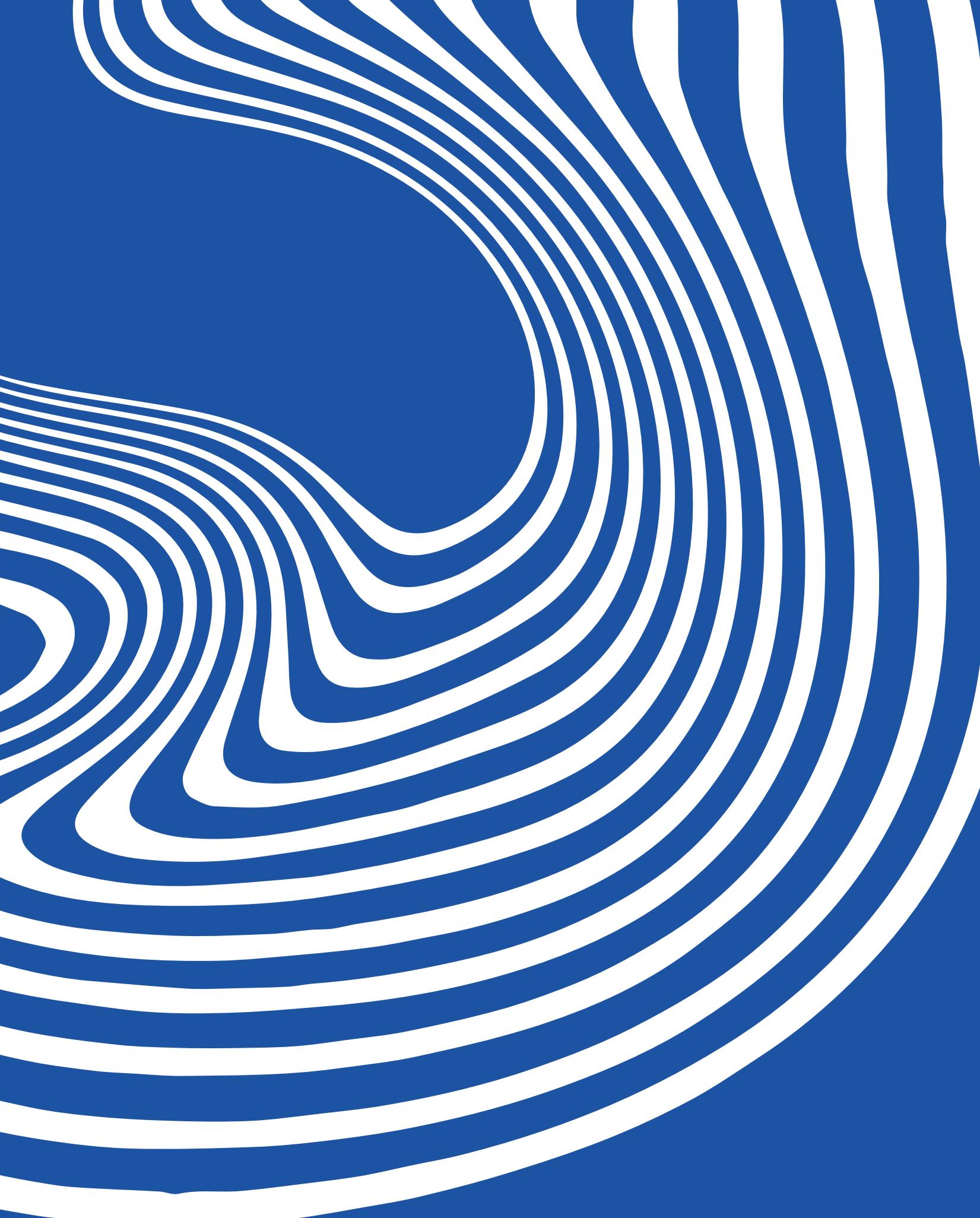
A large, abstract graphic on the left side of the slide features several concentric, wavy lines in varying shades of blue and white. These lines create a sense of depth and motion, resembling ripples or waves on water. They are positioned against a solid blue background.

Entity relational Model (ERM)



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A large, abstract graphic on the left side of the slide features several concentric, wavy lines in varying shades of blue and white. These lines create a sense of depth and motion, resembling ripples or waves on water. They are positioned against a solid blue background.

Normalization Theory



Employee("Employee ID", employee name, position , department

Base: ID, department name, manager ID, manager name, manager
salary,POP)

Employee(" employee ID", employee name, position)

1NF: Promotion(" employee ID", "department ID",POP)

DepartmentManager(" department ID", department name,
manager ID, manager name, manager salary)

Employee(" employee ID", employee name, position)

2NF: Promotion(" employee ID", "department ID",POP)

DepartmentManager(" department ID", department name,
manager ID, manager name, manager salary)

3NF:

Employee(" employee ID", employee name, position)

Promotion(" employee ID", "department ID", POP)

Department(" department ID", department name, manager ID)

Manager("manager ID", manager name, manager salary)

Note :POP-> Possibility of promotion



Base:

Product(ProductID,ProductName,SuppliersID,SuppliersName
,CustomerID,CustomerName,OrderID,Totalamount,Rating)

1NF:

Product(ProductID, ProductName, SuppliersID, SuppliersName)

Reviews(OrderID, ProductID, CustomerName, CustomerID, Totalamount, Rating)

Product(ProductID, ProductName, SuppliersID, SuppliersName)

2NF:

Reviews(CustomerID ,CustomerName, Rating)

Orders(OrderID, Totalamount)

Product(ProductID, ProductName)

3NF:

Suppliers(SuppliersID, SuppliersName)

Reviews(CustomerID, CustomerName, Rating)

Orders(OrderID, Totalamount)



Base:

Orders("order ID", customer ID, customer
name,product ID,product name,order date,
quantity, price ,total amount)

1NF:

Orders("order ID", customer ID, customer name , order date, total amount)
Orderitems("order ID","product ID", product name, quantity, price)

2NF:

Orders("order ID", order date, total amount)
Customers("customer ID", customer name)
Products("product ID", product name, price)
Orderitems("order ID"," product ID", quantity)

3NF:

Already in 3NF





The end
Thank you for listening