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# 1.Domain:

#### E-commerce

This system allows customers to browse products, place orders, and track shipments.

# 2. Entities and Relationships:

### **Entities:**

- 1. Customer
- 2. Product
- 3. Category
- 4. Order
- 5. OrderItem
- 6. Payment
- 7. Shipment

# **Relationships:**

- A Customer can place many Orders.
- An Order can contain many OrderItems.
- Each OrderItem refers to one Product.
- Each Product belongs to one Category.
- An Order has one Payment.
- An Order can have one Shipment.

## 3.CREATE TABLE statements with Primary Key and Foreign Key

```
CREATE TABLE Customer (
  customer_id INT PRIMARY KEY,
  name VARCHAR(100),
  email VARCHAR(100) UNIQUE,
  phone VARCHAR(15),
  address TEXT
);
CREATE TABLE Category (
  category_id INT PRIMARY KEY,
  category_name VARCHAR(100)
);
CREATE TABLE Product (
  product_id INT PRIMARY KEY,
  name VARCHAR(100),
  description TEXT,
  price DECIMAL(10,2),
  category_id INT,
  FOREIGN KEY (category_id) REFERENCES Category(category_id)
);
```

```
CREATE TABLE Orders (
  order_id INT PRIMARY KEY,
  customer_id INT,
  order_date DATE,
  total_amount DECIMAL(10,2),
  FOREIGN KEY (customer_id) REFERENCES Customer(customer_id)
);
CREATE TABLE OrderItem (
  order_item_id INT PRIMARY KEY,
  order_id INT,
  product_id INT,
  quantity INT,
  price DECIMAL(10,2),
  FOREIGN KEY (order_id) REFERENCES Orders(order_id),
  FOREIGN KEY (product_id) REFERENCES Product(product_id)
);
CREATE TABLE Payment (
  payment_id INT PRIMARY KEY,
  order id INT,
  payment_date DATE,
  amount DECIMAL(10,2),
  payment_method VARCHAR(50),
  FOREIGN KEY (order_id) REFERENCES Orders(order_id)
```

```
);

CREATE TABLE Shipment (

shipment_id INT PRIMARY KEY,

order_id INT,

shipment_date DATE,

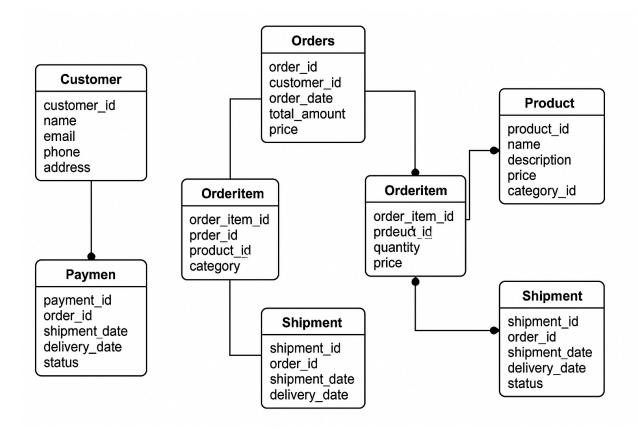
delivery_date DATE,

status VARCHAR(50),

FOREIGN KEY (order_id) REFERENCES Orders(order_id)
);
```

# 4. Primary and Foreign Keys

Table Name	Primary Key		Foreign Keys
Customer	customer_i d	_	
Category	category_i d	_	
Product	product_id		${\tt category\_id} \to {\tt Category}$
Orders	order_id		$\texttt{customer\_id} \to \textbf{Customer}$
OrderItem	order_item _id		${\tt order\_id} \rightarrow {\tt Orders},$
Payment	payment_id		$\texttt{order\_id} \rightarrow \textbf{Orders}$
Shipment	shipment_i d		${\tt order\_id} \to {\tt Orders}$



### ✓ 1. CUSTOMER Table Example

INSERT INTO Customer (customer\_id, name, email, phone, address)
VALUES (1, 'Arjun Kumar', 'arjun.k@example.com', '9876543210', '123, MG Road,
Chennai');

### 2. CATEGORY Table Example

**INSERT INTO Category (category id, category name)** 

VALUES (1, 'Electronics');

### 3. PRODUCT Table Example

INSERT INTO Product (product\_id, name, description, price, category\_id)
VALUES (101, 'Bluetooth Headphones', 'Noise-canceling over-ear headphones', 2999.99,
1);

### **4. ORDERS Table Example**

INSERT INTO Orders (order\_id, customer\_id, order\_date, total\_amount) VALUES (5001, 1, '2025-06-23', 2999.99);

### **5. ORDERITEM Table Example**

INSERT INTO OrderItem (order\_item\_id, order\_id, product\_id, quantity, price) VALUES (9001, 5001, 101, 1, 2999.99);

### **6. PAYMENT Table Example**

INSERT INTO Payment (payment\_id, order\_id, payment\_date, amount, payment\_method) VALUES (7001, 5001, '2025-06-23', 2999.99, 'UPI');

### **7. SHIPMENT Table Example**

INSERT INTO Shipment (shipment\_id, order\_id, shipment\_date, delivery\_date, status) VALUES (8001, 5001, '2025-06-24', '2025-06-26', 'In Transit');