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## Online Retail Store Management System

**An online retail company wants to build a database system to manage its products, customers, orders, and deliveries. The store sells thousands of products across different categories, and each product must be properly tracked from listing to delivery:**

- Each product has a unique product ID, name, description, unit price, stock quantity, and date added. Every product belongs to a category, such as Electronics, Clothing, or Home Appliances.
- Each category has a unique category ID, name, and description.
- Some products may belong to subcategories, which are also stored in the same table, allowing a category to have multiple subcategories (e.g., “Laptops” under “Electronics”).

**The system records information about suppliers who provide the products:**

- Each supplier has a supplier ID, name, contact number, email, address, and country.
- A supplier can supply multiple products, and a product may come from more than one supplier — so their relationship must support multiple associations.

**Customers are the core users of the store:**

- Each customer has a customer ID, full name, email, phone number, shipping address, and registration date.
- A customer can place multiple orders, and each order contains one or more products.
- An order is identified by an order ID and includes details such as order date, total amount, status (e.g., pending, shipped, delivered, canceled), and payment method.
- Each order belongs to one customer but can contain many order items — each representing a product, its quantity, and the unit price at the time of purchase.

**After an order is placed, the system generates a shipment record to track delivery :**

- A shipment has a shipment ID, shipment date, delivery date, carrier name, tracking number, and current status.
- Each order can have one or more shipments (for example, when items are sent in separate packages).

**The store also maintains payment information. :**

- Each payment has a payment ID, payment date, amount, method (credit card, wallet, bank transfer), and status.
- Payments are linked to orders, and sometimes a single payment may cover multiple orders, such as when a customer preloads store credit.

**To manage inventory, the system keeps stock transactions that record whenever a product's quantity changes due to new stock arrivals or customer purchases:**

- Each transaction includes a transaction ID, product ID, transaction date, quantity change, type (in or out), and reference (such as supplier or order ID).

**Finally, the store offers reviews where customers can rate and comment on products they purchased.**

- Each review includes a review ID, rating, comment, date, and references both the product and the customer who wrote it.

