Business Scenario:

Consider a simple e-commerce platform where customers can place orders for products. The platform has the following requirements:

1. **Customers**: Each customer has a unique ID, name, email, and phone number.
2. **Products**: Each product has a unique ID, name, description, and price.
3. **Orders**: Each order has a unique order ID, an order date, and a status.
4. **Order Details**: Each order can include multiple products. The quantity and the total price for each product in the order are recorded.
5. **Shipping**: Each order has a shipping address that includes an address ID, street, city, state, and postal ode.

Entities and Attributes

Based on the scenario, the following entities and attributes are identified:

1. Customer

- CustomerID (Primary Key)
- Name
- Email
- PhoneNumber
- Product

2. ProductID (Primary Key)

- Name
- Description
- Price
- Order

3. OrderID (Primary Key)

- OrderDate
- Status
- CustomerID (Foreign Key)
- OrderDetail

4. OrderID (Composite Key, Foreign Key)

- ProductID (Composite Key, Foreign Key)
- Quantity
- TotalPrice
- ShippingAddress

5. AddressID (Primary Key)

- Street
- City
- State
- PostalCode
- OrderID (Foreign Key)

Relationships

* A Customer can place multiple Orders.

* An Order is associated with one Customer.

* An Order can include multiple Products through OrderDetails.

* A Product can be part of multiple OrderDetails.

* An Order has one ShippingAddress.

ER Diagram

Let's create the ER diagram:

- Entities and Relationships
- Customer (1) ---- (M) Order
- One customer can place many orders.
- Order (1) ---- (M) OrderDetail
- One order can have many order details (each for different products).
- Product (1) ---- (M) OrderDetail
- One product can appear in many order details.
- Order (1) ---- (1) ShippingAddress
- One order has one shipping address.

ER-Diagram for E-Commerce :