Assignment – 1

🔸 **Analyze a given business scenario and create an ER diagram that includes entities, relationships, attributes, and cardinality. Ensure that the diagram reflects proper normalization up to the third normal form.**
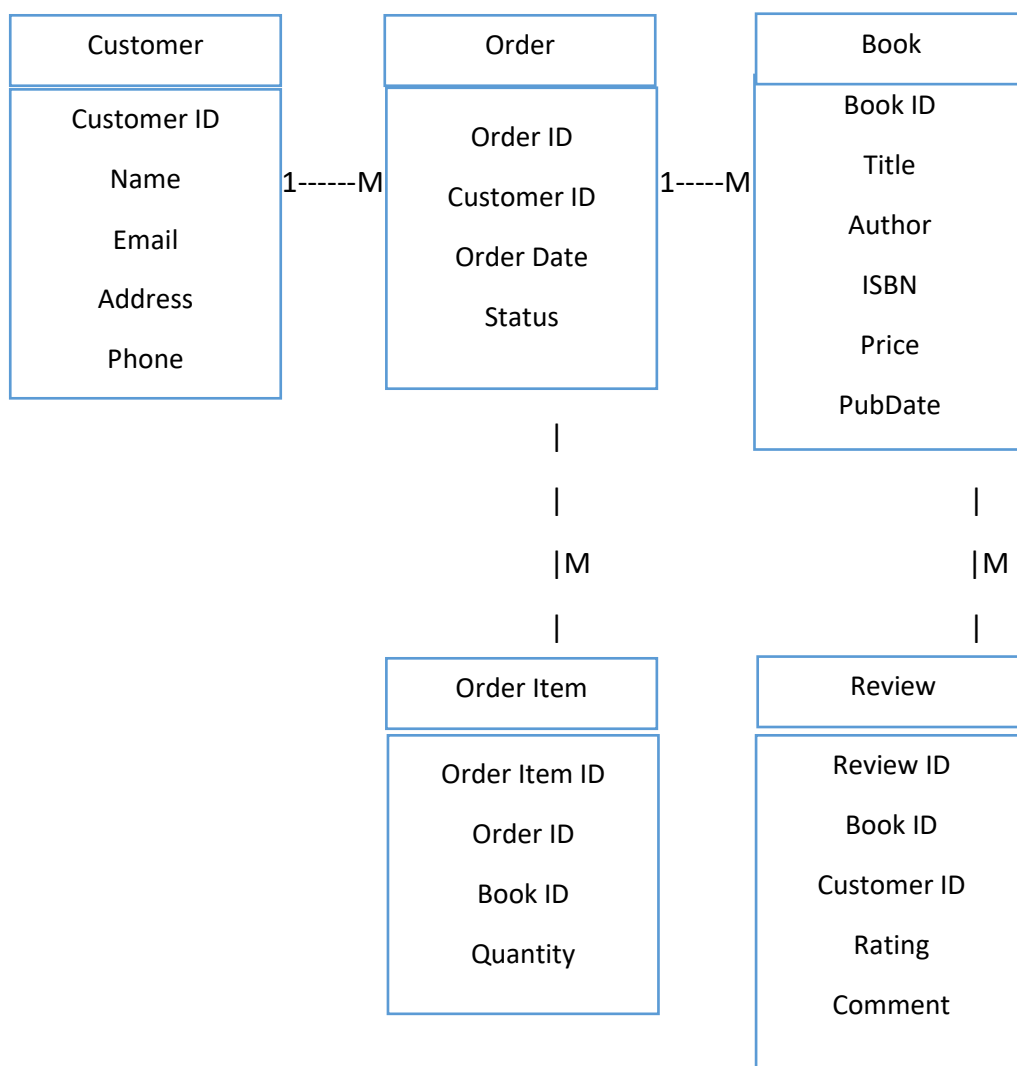
Solution :

Business Scenario: Online Bookstore

🔸 **Description:**

An online bookstore needs to manage its inventory, customers, orders, and reviews. The bookstore sells books, and each book has attributes such as title, author, ISBN, price, and publication date. Customers can register on the site with their personal details, and they can place orders for books. Each order can contain multiple books and has an order date and a status. Customers can also leave reviews for books, and each review has a rating and a comment.

🔸 **ER Diagram**

Customer		Order		Book
Customer ID		Order ID		Book ID
Name	1------M	Customer ID	1-----M	Title
Email		Order Date		Author
Address		Status		ISBN
Phone				Price
				PubDate

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Order Item		Review
Order Item ID		Review ID
Order ID		Book ID
Book ID		Customer ID
Quantity		Rating
		Comment

⬇ Normalization

1. First Normal Form (1NF):
   - All attributes contain only atomic (indivisible) values.
   - Each entity has a primary key.

2. Second Normal Form (2NF):
   - Meets all requirements of 1NF.
   - All non-key attributes are fully functional dependent on the primary key.

3. Third Normal Form (3NF):
   - Meets all requirements of 2NF.
   - All attributes are functionally dependent only on the primary key.