

System 1: Restaurant Order Management System

Entities:

- Customer
- Order
- Product
- Invoice
- Employee

Requirements:

- Each customer can place multiple orders.
- Each order contains one or more products.
- Each product can appear in multiple orders.
- Each order is handled by one employee.
- Each order generates one invoice.
- Each invoice is linked to a single order.
- Each employee can handle multiple orders.

System 2: Library Management System

Entities:

- Book
- Author
- Student
- Borrowing
- Returning

Requirements:

- Each book can have one or more authors.
- Each author can write multiple books.
- Each student can borrow multiple books.
- Each borrowing record links a student, a book, and a borrow date.
- Each returning record is linked to a borrowing record and return date.
- Book status must be tracked (Available / Borrowed).

System 3: Clinic Appointment System

Entities:

- Doctor
- Patient
- Appointment
- Invoice
- Specialty

Requirements:

- Each doctor has one specialty.
- Each specialty can include multiple doctors.
- Each patient can book multiple appointments.
- Each appointment links a doctor, a patient, and includes date/time.
- Each appointment generates one invoice.
- Each invoice is linked to a single appointment.