Exercise 1: Online Bookstore

You are tasked with designing an ERD for an online bookstore. The system needs to track books, authors, customers, orders, and payments. Here are the details:

Tips:

Entities:

- Book: Contains attributes like ISBN, title, genre, price, and publication date.
- Author: Contains attributes like author ID, name, birthdate, and nationality.
- Customer: Contains attributes like customer ID, name, email, and address.
- Order: Contains attributes like order ID, order date, and total cost.
- Payment: Contains attributes like payment ID, payment date, payment method, and amount.

Relationships:

- A Book can be written by one or more Authors.
- Customers can place many Orders.
- Each Order can contain one or more Books.
- Customers can make one or more Payments for their Orders.
- Customers can make one or more Payments for their Orders.

Draw an ERD that represents these entities and their relationships. Specify the cardinality and participation constraints.

Exercise 2: University Course Registration System

You are designing an ERD for a university's course registration system. The system needs to handle students, courses, instructors, departments, and class registrations. Here are the details:

Tips:

Entities:

- Student: Contains attributes like student ID, name, date of birth, and contact information.
- Course: Contains attributes like course code, title, description, and credits.
- Instructor: Contains attributes like instructor ID, name, and contact information.
- Department: Contains attributes like department code, name, and office location.
- Registration: Contains attributes like registration ID and registration date.

Relationships:

- Students can register for many Courses, and each Course can have many registered Students.
- Instructors can teach many Courses, and each Course is taught by one Instructor.
- Each Course belongs to one Department, but a Department can have many Courses.
- Each Registration links a Student to a Course and records the registration date.

Create an ERD that represents these entities and their relationships. Specify the cardinality and participation constraints.