1. **Library Management System**
   * **Description**: Create a database for a library to keep track of books, authors, members, and borrowed books.
   * **Tables**: Books, Authors, Members, Borrowed\_Books
   * **Queries**:
     + List all books available in the library.
     + Find all books by a specific author.
     + Check which books are currently borrowed and by whom.
2. **Student Database**
   * **Description**: Develop a database to manage student records, courses, and enrollment.
   * **Tables**: Students, Courses, Enrollment
   * **Queries**:
     + Retrieve the list of students enrolled in a particular course.
     + Calculate the average grade for each course.
     + Find students who have not enrolled in any courses.
3. **Online Retail Store**
   * **Description**: Build a database to manage products, customers, and orders.
   * **Tables**: Products, Customers, Orders, Order\_Details
   * **Queries**:
     + List all products in a specific category.
     + Retrieve order details for a specific customer.
     + Calculate the total sales for the day.

**Intermediate Projects**

1. **Movie Rental System**
   * **Description**: Create a database to track movie rentals, customers, and rental history.
   * **Tables**: Movies, Customers, Rentals, Rental\_History
   * **Queries**:
     + List all movies currently rented out.
     + Find the most popular movie based on rental history.
     + Retrieve rental history for a specific customer.
2. **Employee Management System**
   * **Description**: Develop a database to manage employees, departments, and payroll.
   * **Tables**: Employees, Departments, Payroll
   * **Queries**:
     + Find all employees in a specific department.
     + Calculate the total payroll cost per department.
     + Retrieve the salary history of a specific employee.
3. **Event Management System**
   * **Description**: Build a database to manage events, attendees, and schedules.
   * **Tables**: Events, Attendees, Schedules
   * **Queries**:
     + List all events on a specific date.
     + Find attendees registered for a specific event.
     + Retrieve the schedule for a particular event.

**Advanced Projects**

1. **E-commerce Analytics**
   * **Description**: Create a database to track user activity, product performance, and sales analytics for an e-commerce platform.
   * **Tables**: Users, Products, Orders, Order\_Details, User\_Activity
   * **Queries**:
     + Analyze the conversion rate for product views to purchases.
     + Identify top-selling products and underperforming ones.
     + Generate user activity reports to understand browsing patterns.
2. **Healthcare Management System**
   * **Description**: Develop a comprehensive database to manage patients, doctors, appointments, and medical records.
   * **Tables**: Patients, Doctors, Appointments, Medical\_Records
   * **Queries**:
     + Retrieve appointment schedules for doctors.
     + Find patients who have upcoming appointments.
     + Analyze patient data to identify common health issues.
3. **Inventory Management System**
   * **Description**: Create a database to manage inventory, suppliers, and orders for a manufacturing company.
   * **Tables**: Inventory, Suppliers, Orders, Order\_Items
   * **Queries**:
     + Track inventory levels and identify items that need reordering.
     + Retrieve order history for a specific supplier.
     + Calculate the total cost of inventory on hand.

**Expert Projects**

1. **Financial Transaction System**
   * **Description**: Build a database to manage financial transactions, accounts, and reporting for a banking system.
   * **Tables**: Accounts, Transactions, Account\_Holders, Transaction\_Types
   * **Queries**:
     + Generate account statements for customers.
     + Detect fraudulent transactions based on anomalies.
     + Analyze transaction data to find trends in spending habits.
2. **Social Media Analytics**
   * **Description**: Create a database to analyze user interactions, posts, and trends on a social media platform.
   * **Tables**: Users, Posts, Comments, Likes, User\_Follows
   * **Queries**:
     + Identify the most popular posts and users.
     + Analyze user engagement over time.
     + Detect trends and patterns in user interactions.
3. **Recommendation System**
   * **Description**: Develop a database to support a recommendation system for products, movies, or content.
   * **Tables**: Users, Items, Ratings, Recommendations
   * **Queries**:
     + Generate personalized recommendations based on user ratings.
     + Analyze item popularity and user preferences.
     + Track the effectiveness of recommendations.