# 1. Call Taxi Booking Application

Objective: Design a call taxi booking application.

Requirements:

- There are n taxis, assume 4 for simplicity.
- Six points (A, B, C, D, E, F) in a straight line, 15 kms apart.
- All taxis start at point A.
- It takes 60 minutes to travel from one point to the next.
- When a customer books a taxi, allocate a free taxi at that point. If none are available, allocate a taxi from the nearest point.
- If two taxis are free at the same point, allocate the one with lower earnings.
- Taxis charge Rs.100 for the first 5 kms and Rs.10 for each subsequent km.
- Taxis only charge from the pickup point to the drop point.
- If no taxi is free at the time, the booking is rejected.

### 2. Employee Record Management System

Objective: Build an employee record management application.

Requirements:

- Create a system to manage employee records.
- Allow adding, updating, and deleting employee records.
- Implement search functionality based on different criteria (name, department, etc.).
- Display reporting hierarchy of employees.
- Handle edge cases such as circular references in the reporting structure.

# 3. Event Management System

Objective: Develop an event management system.

# Requirements:

- Admin can create, update, and delete events.
- Users can register for events, view event details, and cancel registrations.
- Implement notifications for event reminders.
- Manage different event types and track attendee lists.

# 4. Library Management System

Objective: Design a library management system.

### Requirements:

- Admin can manage book inventory (add, update, remove books).
- Members can register, borrow, and return books.
- Track book availability and member borrowing history.
- Implement search functionality by title, author, or genre.
- Limit borrowing to a maximum of 5 books for up to 30 days.

# 5. Online Examination System

Objective: Create an online examination system.

### Requirements:

- Admin can create and manage exams.
- Students can register, log in, and take exams.
- Support multiple-choice and descriptive questions.
- Automatically grade multiple-choice questions and allow manual grading for descriptive answers.
- Provide a summary of scores and results.

### 6. E-commerce Platform

Objective: Design an e-commerce platform.

# Requirements:

- Users can browse products, add to cart, and make purchases.
- Admin can manage product listings, inventory, and orders.
- Integrate payment gateways.
- Provide order tracking and history.
- Allow users to leave reviews and ratings.

## 7. Hospital Management System

Objective: Build a hospital management system.

# Requirements:

- Admin can manage staff (doctors, nurses, etc.).
- Patients can register, book appointments, and view medical history.
- Doctors can update patient records.
- Implement a scheduling system for appointments.
- Provide billing and payment tracking.

## 8. Social Networking Site

Objective: Develop a social networking site.

# Requirements:

- Users can register, create profiles, add friends.
- Implement functionality for posting status updates, liking, and commenting.
- Provide a news feed showing updates from friends.
- Implement private messaging between users.
- Allow users to create and join groups.

# 9. Inventory Management System

Objective: Design an inventory management system.

# Requirements:

- Admin can add, update, and delete inventory items.
- Track inventory levels, reorder points, and suppliers.
- Generate reports on inventory status and transaction history.
- Implement notifications for low stock levels.
- Provide user roles for different access levels.

# 10. Task Management Application

Objective: Design a task management application.

# Requirements:

- Users can register, create, update, and delete tasks.
- Each task should have a title, description, due date, priority level, and status.
- Tasks can be organized into projects.
- Users can assign tasks to others and receive notifications.
- Provide a dashboard for an overview of tasks and projects.