# Lab Tasks

1. A Library Management System is a software build to handle the primary housekeeping functions of a library. Libraries rely on library management systems to manage asset collections as well as relationships with their members. Library management systems help libraries keep track of the books and their checkouts, as well as members’ subscriptions and profiles. Library management systems also involve maintaining the database for entering new books and recording books that have been borrowed with their respective due dates. Any library member should be able to search books by their title, author, subject category as well by the publication date. There could be more than one copy of a book, and library members should be able to check-out and reserve any copy. The Librarian can add books, delete books. The librarian should be able to retrieve information like who took a particular book or what are the books checked-out by a specific library member. The librarian should be able to collect fines for books returned after the due date.

i. Identify the actors for the following system.

ii. What are the use cases you can find?

iii. Design the Complete USE CASE diagram for given System.

1. Amazon (amazon.com) is the world’s largest online retailer. The company was originally a bookseller but has expanded to sell a wide variety of consumer goods and digital media. For the sake of this problem, we will focus on their online retail business where users can sell/buy their products.

Users should be able to add new products for selling. Users should be able to search products by their name or category. Users can search and view all the products but to buy a product, they will have to become a registered member. Users should be able to add/remove/modify product items in their shopping cart. Users can check-out to buy items in the shopping cart. Users can rate a product and add a review of a product. The user should be able to specify a shipping address where their order will be delivered. User can cancel an order if it has not been shipped. Users should get notifications whenever there is a change in the order or shipping status. Users of our system should be able to pay through credit cards or electronic bank transfer. Users should be able to track their shipment in order to see the current state of their order.

i. Identify the actors for the following system.

ii. What are the use cases you can find?

iii. Design the Complete USE CASE diagram for given System.

1. LinkedIn is a social network for professionals. The main goal of the site is to enable its members to connect with people they know and trust professionally, as well as to find new opportunities to grow their careers. A LinkedIn member’s profile page, which emphasizes their skills, employment history, and education, has professional network news feeds with some customizable modules. LinkedIn is very similar to Facebook in terms of its layout and design. These features are more specialized because they cater to professionals, but in general, if you know how to use Facebook or any other similar social network, LinkedIn is somewhat comparable. Each member should be able to add information about their basic profile, experiences, education, skills, and accomplishments. Any user of our system should be able to search other members or companies by their name. Members should be able to send or accept connection requests to other members. Any member will be able to request a recommendation from other members. Members should be able to create new posts to share with their connections. Members should be able to add comments to posts, as well as like or share a post. Any member should be able to send messages to other members. Members will be able to create a page for a Company and can add job postings. Members should be able to create groups and join any group they like. Members should be able to follow other members or companies.

i. Identify the actors for the following system.

ii. What are the use cases you can find?

iii. Design the Complete USE CASE diagram for given System.

1. An Airline Management System is a managerial software which targets to control all operations of an airline. Airlines provide transport services for its passengers. They carry or hire aircraft for this purpose. All operations for airlines are controlled by their airline management system. Customers should be able to search flight for a given date and source/destination airport. Customers should be able to reserve an air ticket for any scheduled flight. Customers can build a multi-flight itinerary. Users of the system can check flight schedule, their departure time, available seats, arrival time and other details about flights. Customers can make a reservation for multiple passengers under one itinerary. Only admin of the system can add new aircraft, flight, and flight schedule. Admin can cancel any pre-scheduled flight. (notification will be sent to all stakeholders). Customers can also cancel their reservation and itinerary.

i. Identify the actors for the following system.

ii. What are the use cases you can find?

iii. Design the Complete USE CASE diagram for given System.