EXPERIMENT 3

Question:

Make an Online Airline Reservation System. The activities of the Online Airline Reservation system are listed below user, admin, LOGIN, MANANGE CLASSES, MANAGE WAITING LIST, MANAGE HOLDS, MANAGE DEADLINES, LOGOUT, using this has a step-by-step process draw a CLASS diagram.

Aim:

To design a **Class Diagram** for an **Online Airline Reservation System** that effectively models the system's structure and interactions. The diagram will represent key entities, their attributes, and the relationships among them to ensure a well-defined and efficient airline booking process.

Procedure:

1. Identify Key Entities (Classes)

- Passenger – Books tickets.

- Admin – Manages system operations.

- Flight Class – Defines seat capacity & availability.

- Ticket – Handles booking & payment deadlines.

- Holds – Manages temporary reservations.

- Waiting List – Keeps track of passengers on standby.

2. Define Attributes & Methods

Each class has attributes (data) and methods (operations).

- **Passenger**: PassengerID, Name, Email, Password
         Login(), Logout(), BookTicket()
- **Admin:** AdminID, Role
         ManageClasses(), ManageDeadlines()
- **Flight Class:** ClassID, ClassName, SeatCapacity
         CheckAvailability(), AddClass()
- **Ticket:** DeadlineID, FlightID, BookingDeadline
         SetDeadline(), UpdateDeadline()
- **Holds:** HoldsID, PassengerID, FlightID
         PlaceHold(), ReleaseHold()
- **Waiting List:** WaitingListID, PassengerID, FlightID

AddToWaitingList(), RemoveFromWaitingList()
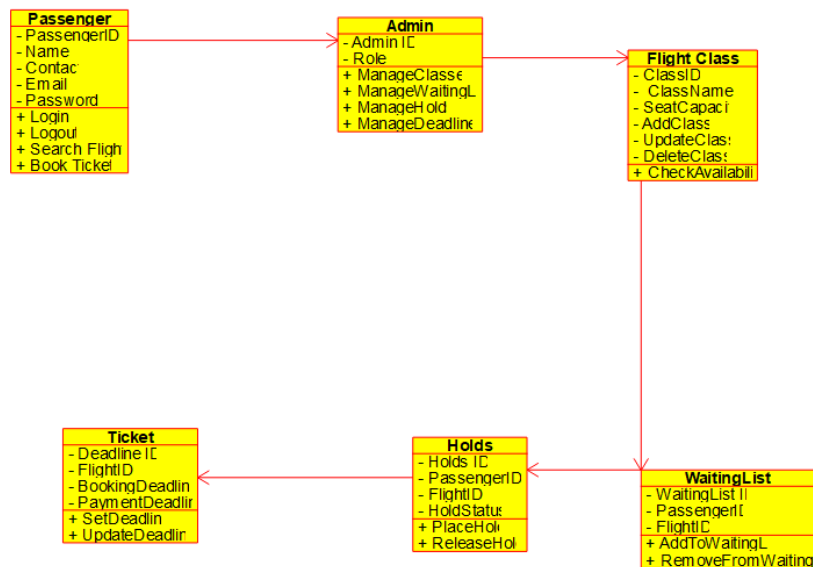
3. Define Relationships

- Passenger ↔ Ticket: One passenger can book multiple tickets.

- Passenger ↔ Holds & Waiting List: Handles unconfirmed bookings.

- Admin ↔ System Management: Controls classes, holds, deadlines, and waiting lists.

4. Implement & Verify

- Ensure proper relationships & functionality.

- Optimize attributes and operations for efficiency.

Output:

Class Diagram

Result

The Hotel Reservation System UML diagram illustrates interactions between the Customer, Hotel, and System, covering hotel selection, room availability check, charge calculation, booking confirmation, and payment processing. It also includes hotel management functionalities, enabling staff to update room availability, pricing, and hotel details dynamically.