1) Draw a UML diagram for hotel reservation system. In a hotel reservation system, a customer can make online booking for a hotel, by specifying the accommodation requirements such as type of room (AC/Non-AC, One bed/two bed), total no of rooms, duration of stay. The system selects a suitable hotel as per customer's requirements. If a hotel is found then the availability of rooms in that hotel is checked. The charges are calculated for the selected requirement and these are acknowledged to the customer. If the customer is satisfactory about the selection made by the system, then he confirms the reservation.

AIM:

To draw a UML class diagram for a Hotel Reservation System that represents the structure and relationships between different components such as Customer, Hotel, Reservation, Room, and Payment.

PROCEDURE:

Step 1: Identify the main classes

- Customer
- Hotel
- Room
- Reservation
- Payment

Step 2: Define attributes and operations for each class

- Customer: Name, Contact, Email, makeReservation(), cancelReservation()
- Hotel: HotelName, Location, checkAvailability()
- Room: RoomNumber, Type, Price, AvailabilityStatus
- Reservation: ReservationID, Duration, calculateCharges(), confirmReservation()
- Payment: PaymentID, Amount, PaymentMethod, processPayment()

Step 3: Establish relationships among classes

- Customer has an association with Reservation.
- Reservation is linked to Room and Payment.
- Hotel has an aggregation relationship with Room.

Step 4: Draw class diagrams using UML symbols

- Use rectangles to represent classes.
- Define attributes and operations within each class.
- Connect classes using appropriate relationship symbols (association, aggregation).

Step 5: Mark multiplicities (1, , *1*..) on associations

- A Customer can make multiple Reservations.
- A Hotel can have multiple Rooms.

Step 6: Label all components and ensure logical structure

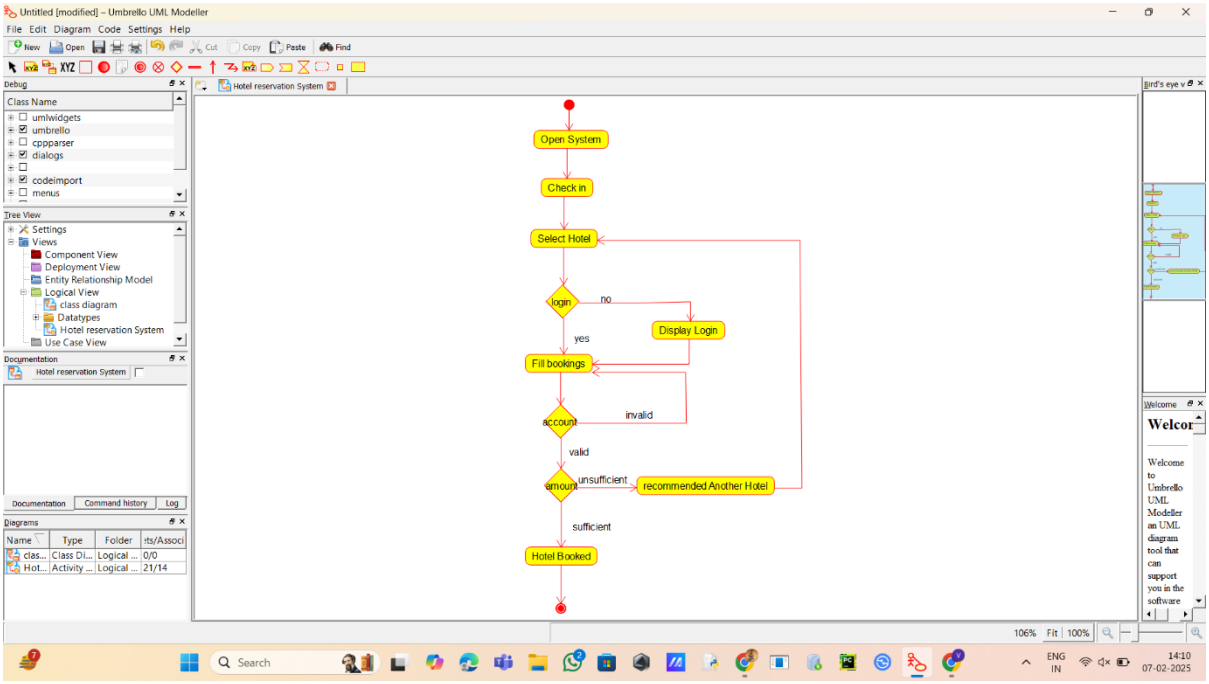
- Properly arrange and organize the classes for clarity.

Step 7: Review and verify the diagram

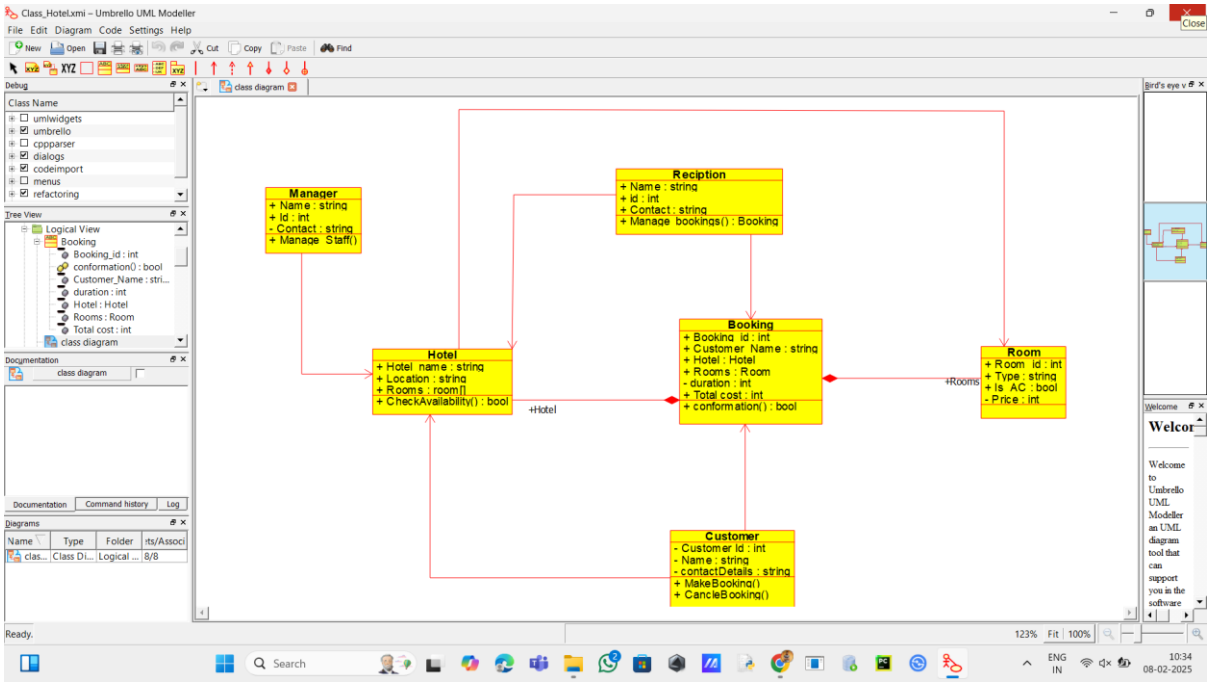
- Ensure the diagram accurately reflects the Hotel Reservation System.

OBSERVATION:

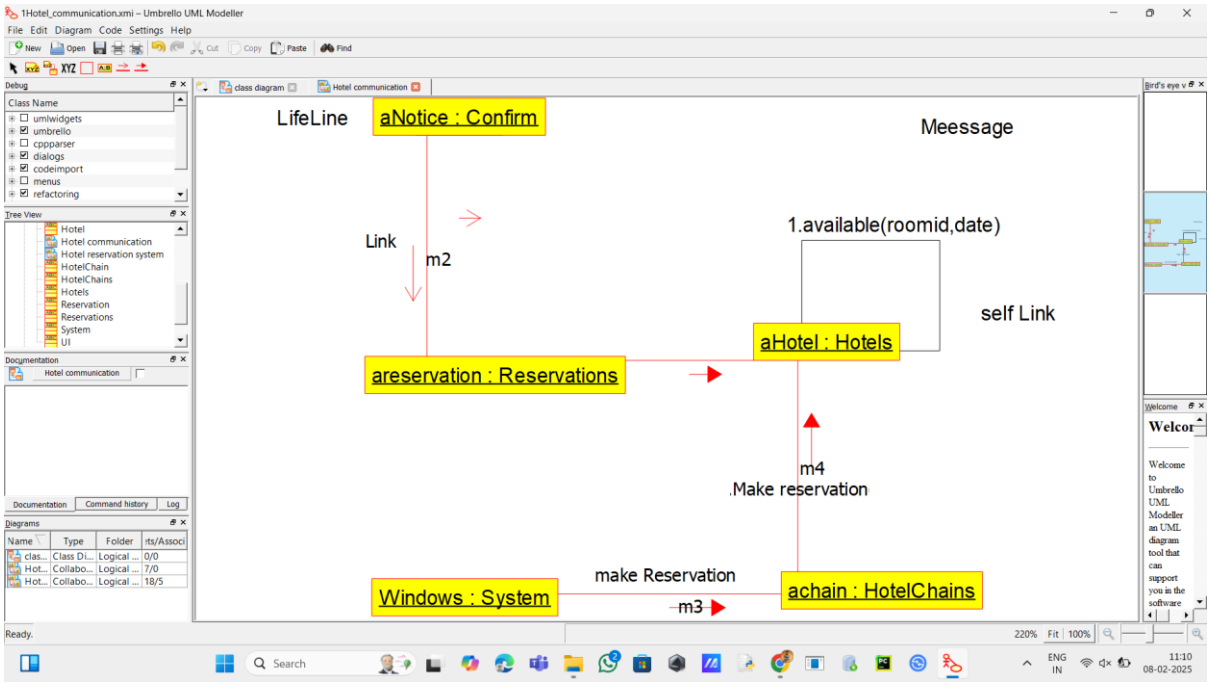
➢ **ACTIVITY DIAGRAM**



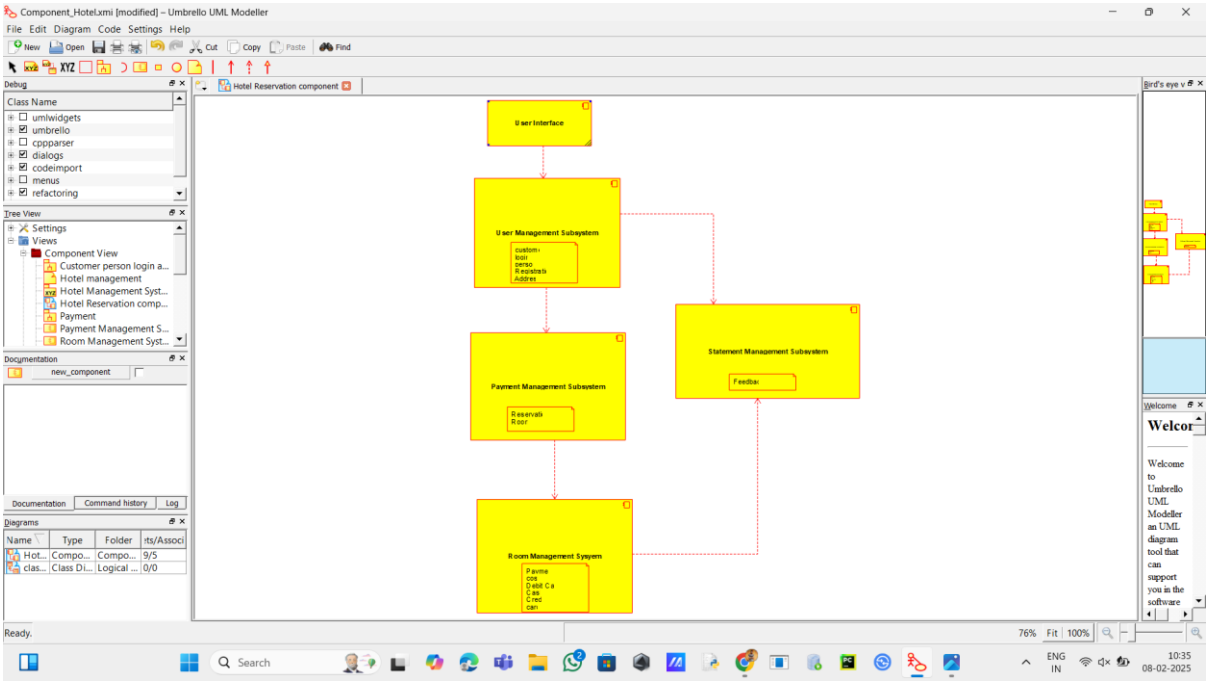
➢ CLASS DIAGRAM



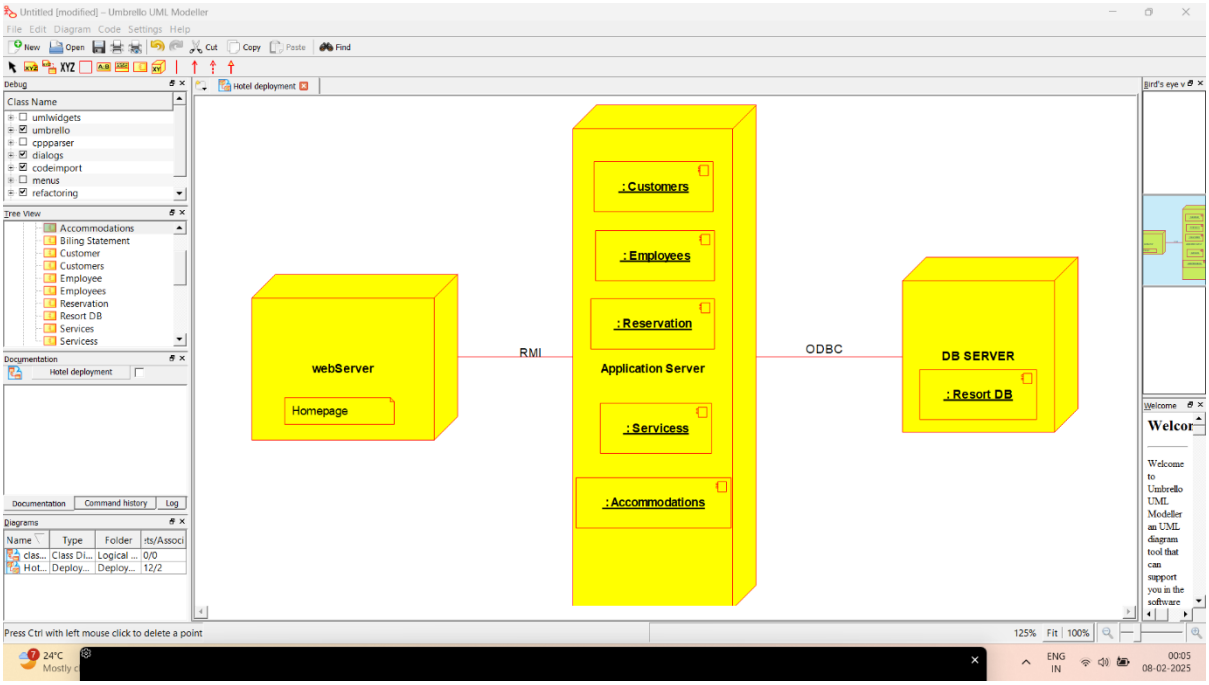
➢ COMMUNICATION DIAGRAM



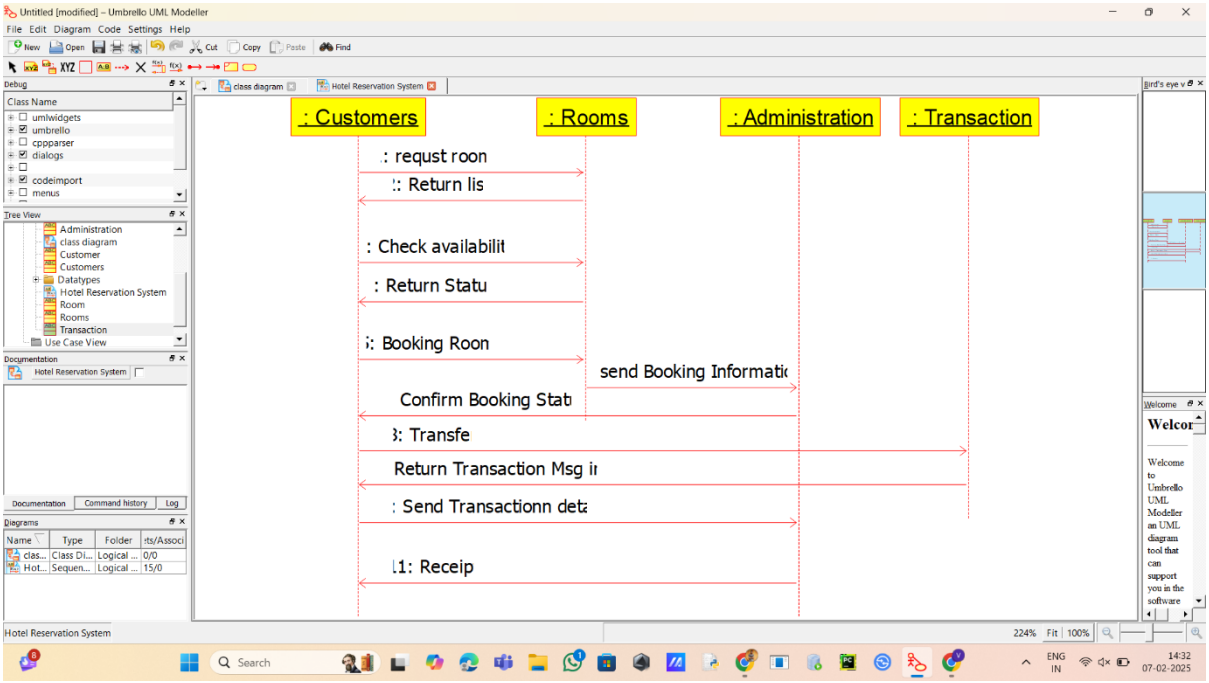
➢ COMPONENT DIAGRAM



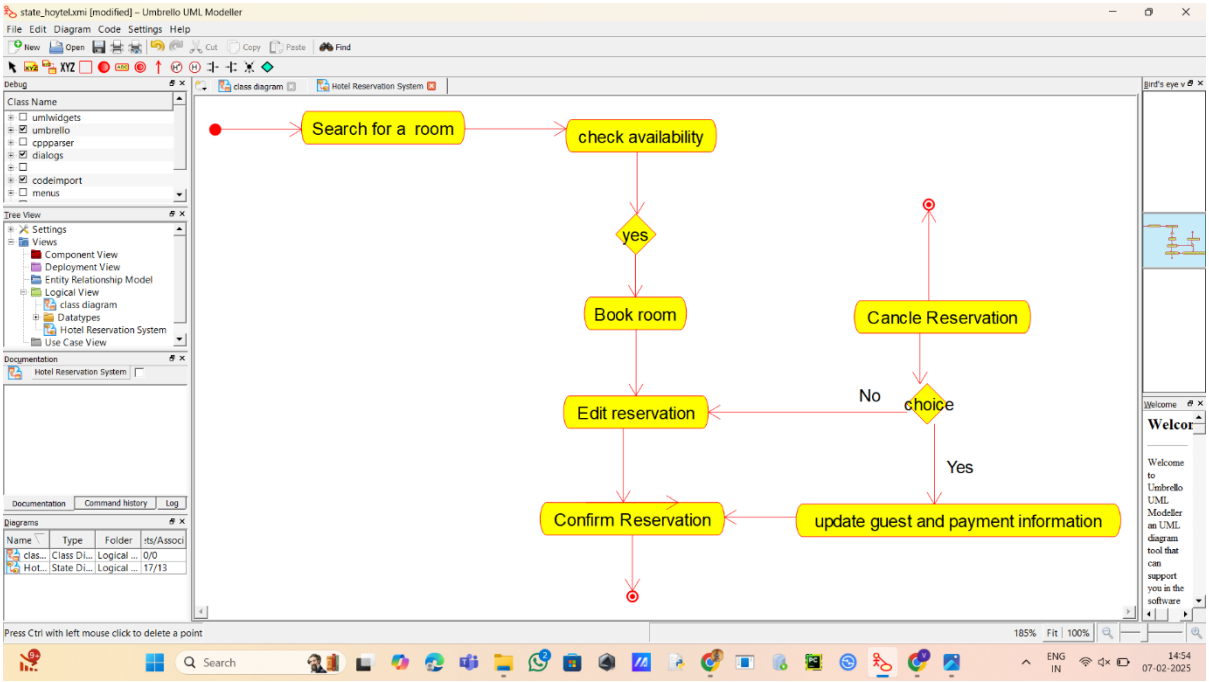
➢ DEPLOYMENT DIAGRAM



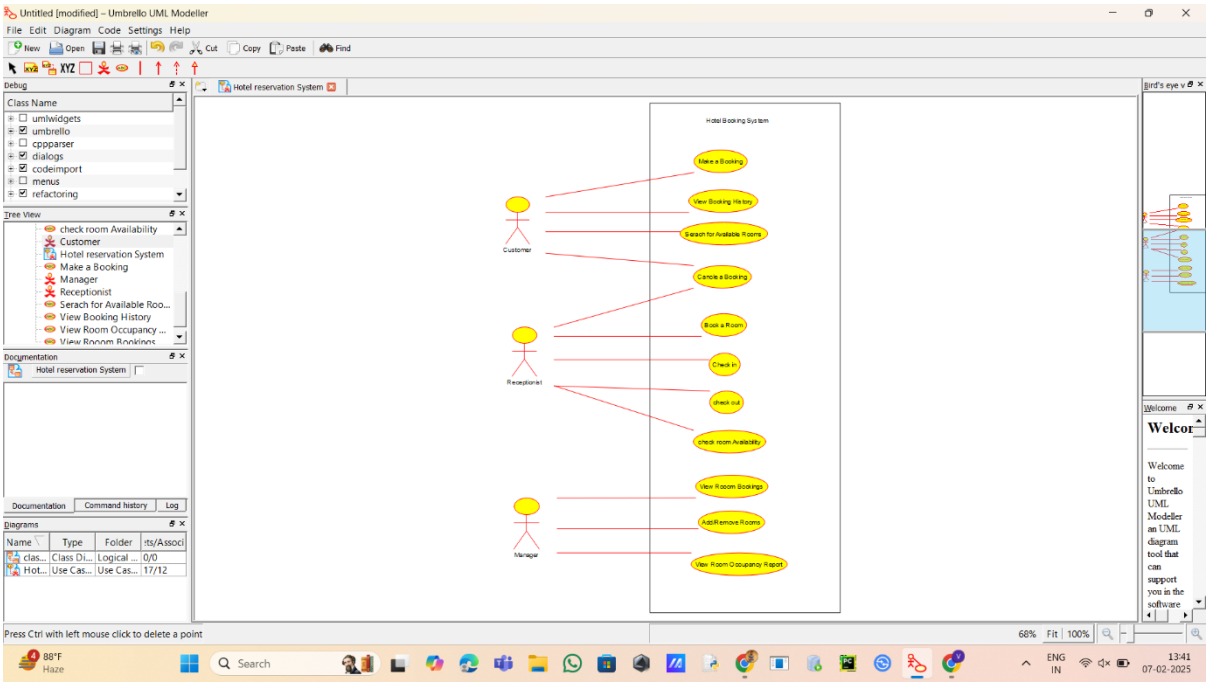
➢ SEQUENCE DIAGRAM



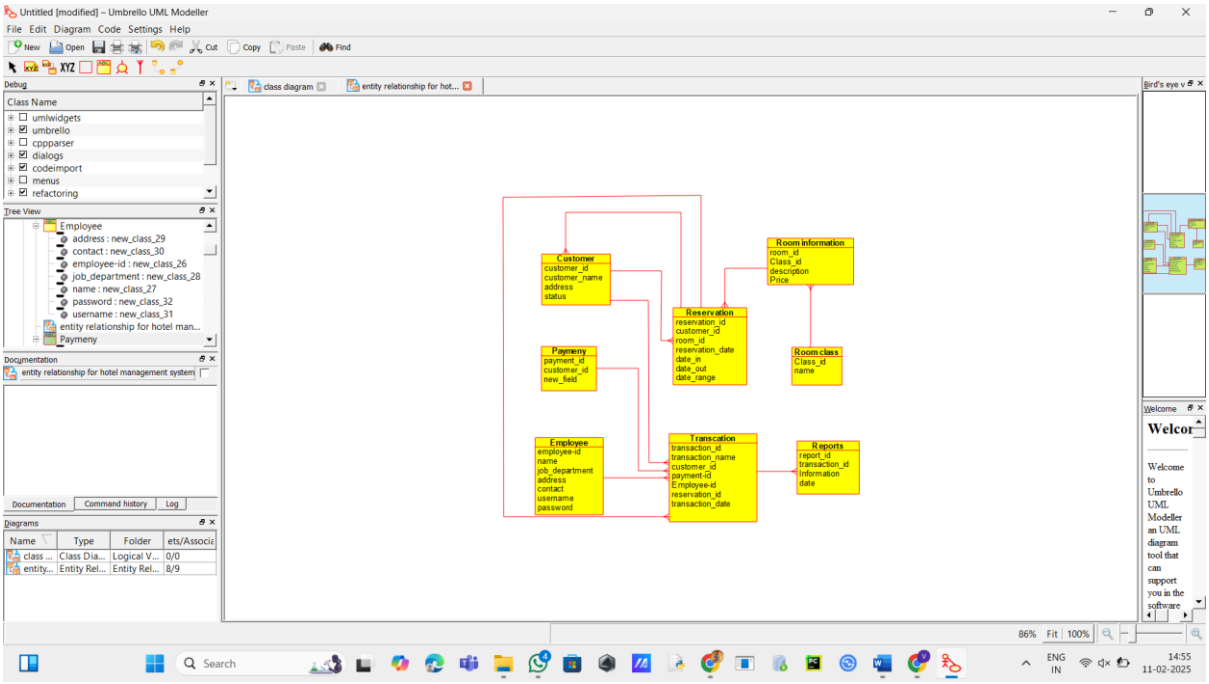
➢ STATE DIAGRAM



➢ USE CASE DIAGRAM



➢ ER DIAGRAM



Result:

The UML class diagram visually represents the Hotel Reservation System, showing the relationships and interactions between Customer, Hotel, Room, Reservation, and Payment components, helping in better understanding of system structure.