HOTEL RESERVATION SYSTEM

QUESTION:

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 design and develop UML diagrams for a Hotel Reservation System using UML notation, covering all nine UML diagrams.

PROCEDURE:

1. Class Diagram

- Step 1: Identify classes such as Customer, Hotel, Room, Reservation, Payment.
- Step 2: Define attributes and methods for each class.
- Step 3: Show relationships (association, aggregation, inheritance).
- Step 4: Connect classes with multiplicities (1..*, 0..1).

2. Sequence Diagram

- **Step 1:** Identify actors like **Customer, Hotel System, Payment Gateway**.
- **Step 2:** Define objects and their lifelines.
- **Step 3:** Add messages between objects such as **Enter Details → Check Availability → Confirm Booking → Process Payment**.

3. Communication (Collaboration) Diagram

- **Step 1:** Identify interacting objects like **Customer, Hotel, Payment Gateway**.
- **Step 2:** Show relationships between objects with numbered messages.
- **Step 3:** Represent how messages are exchanged during **hotel booking**.

4. Use Case Diagram

- **Step 1:** Identify actors (**Customer, Admin, Hotel System**).
- **Step 2:** Define use cases (**Make Booking, Check Availability, Confirm Reservation, Payment Processing**).
- **Step 3:** Draw associations between actors and use cases.

5. State Diagram

- **Step 1:** Identify different states of **Reservation** (e.g., **Initiated → Checking Availability → Payment Processing → Confirmed**).

- **Step 2:** Draw state transitions based on user actions.

6. Activity Diagram

- **Step 1:** Define the workflow steps (**Customer enters details → System selects hotel → Check availability → Calculate charges → Confirm booking → Payment**).
- **Step 2:** Use **start nodes, decision nodes, action nodes, and end nodes**.

7. Component Diagram

- **Step 1:** Identify system components like **User Interface, Hotel Management System, Payment Processing Module, Database**.
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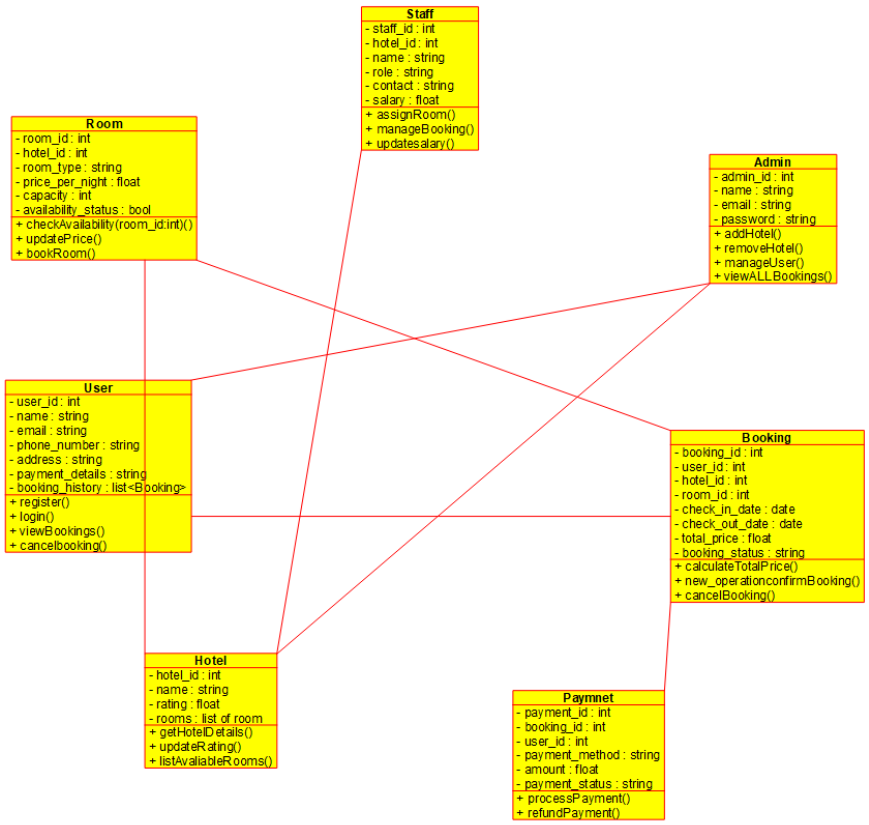
8. Deployment Diagram

- **Step 1:** Identify hardware components like **Client Device, Web Server, Database Server**.
- **Step 2:** Show communication between these nodes using **connections**.

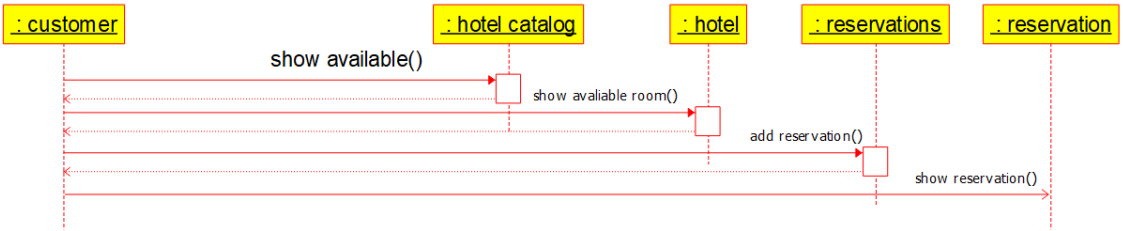
9. Package Diagram

- **Step 1:** Identify major packages in the system (e.g., User Management, Booking System, Payment Processing, Hotel Management).
- **Step 2**: Define dependencies between packages.
- **Step 3:** Represent package relationships with arrows showing dependency direction.

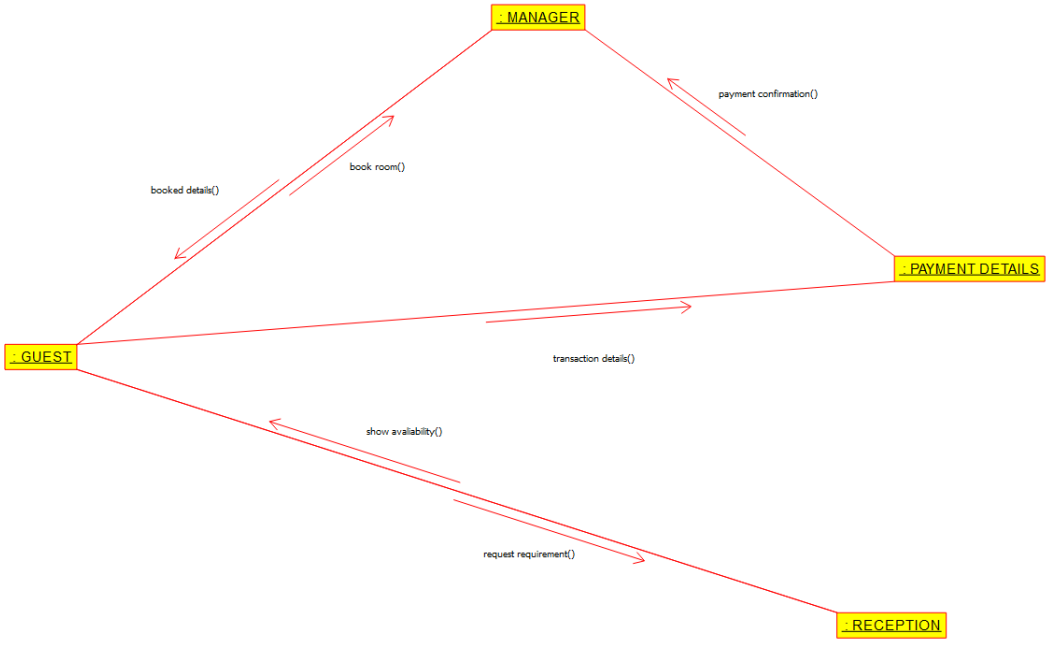
DIAGRAM:1.CLASS DIAGRAM



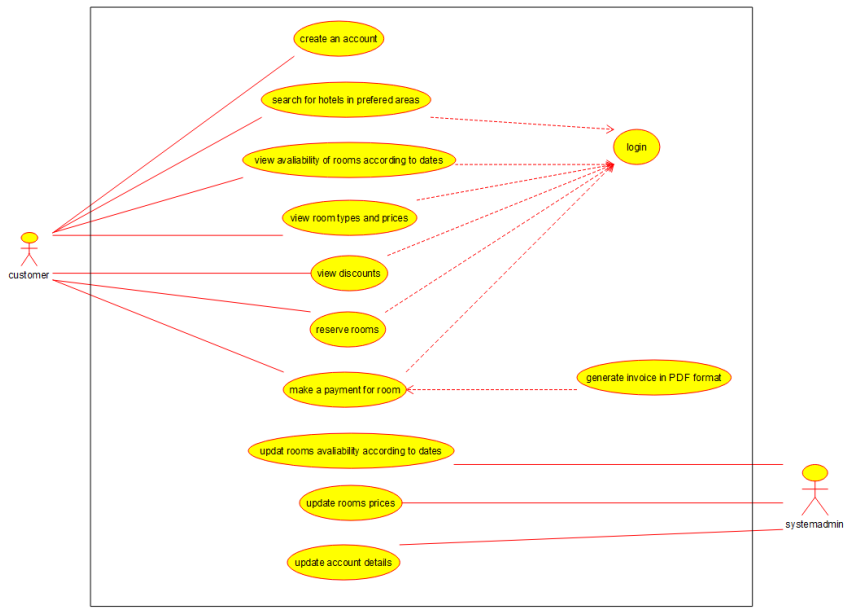
2.SEQUENCE DIAGRAM



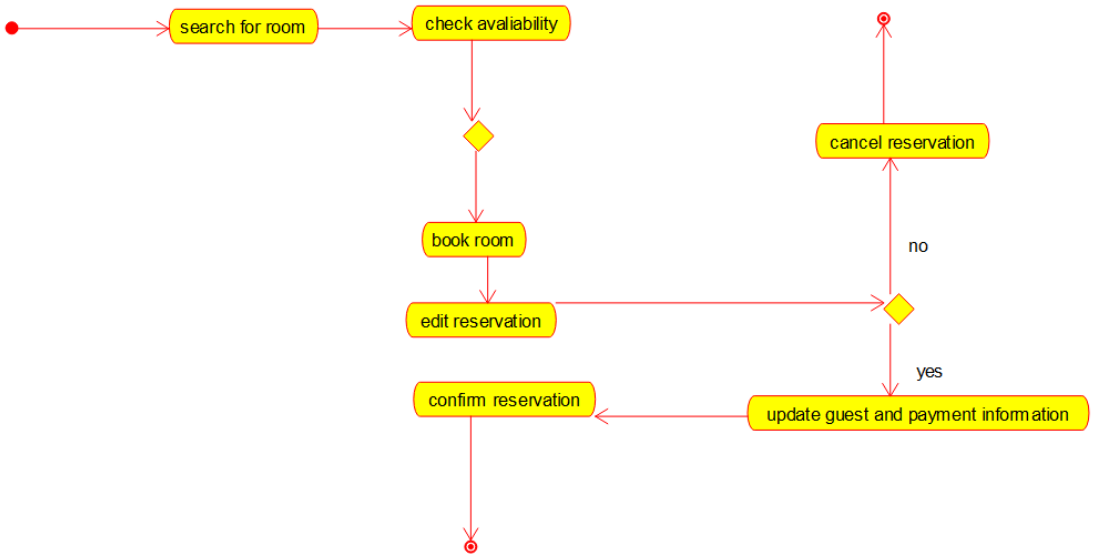
3.COMMUNICATION DIAGRAM



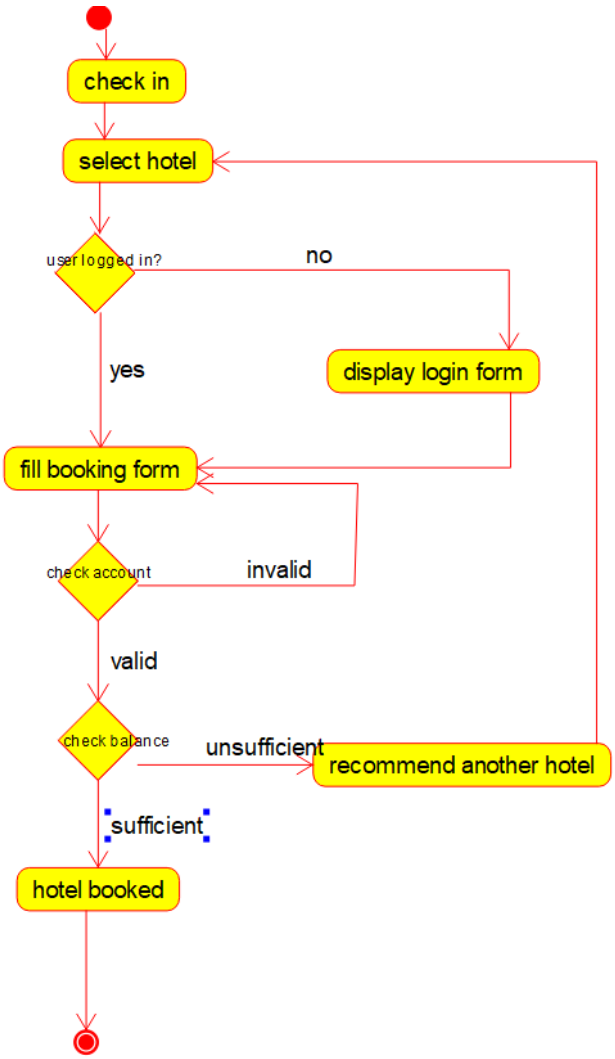
4.USE CASE DIAGRAM



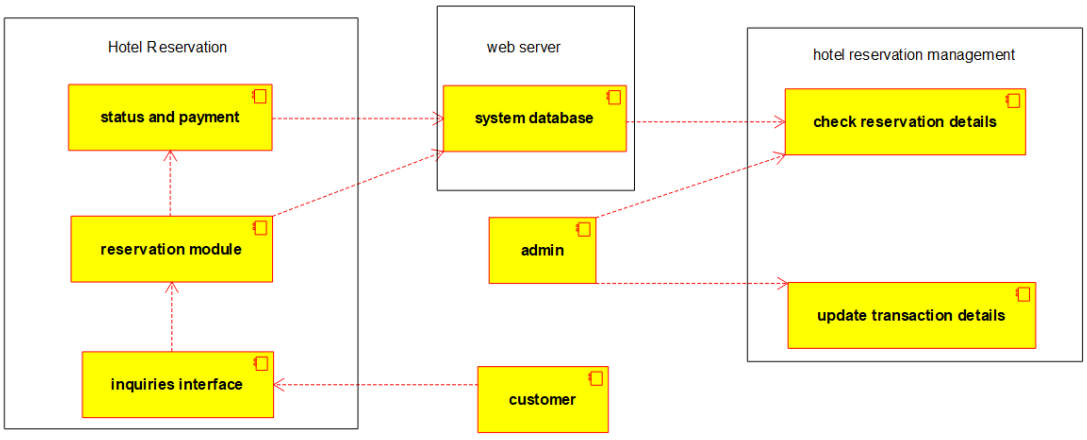
5.STATE DIAGRAM



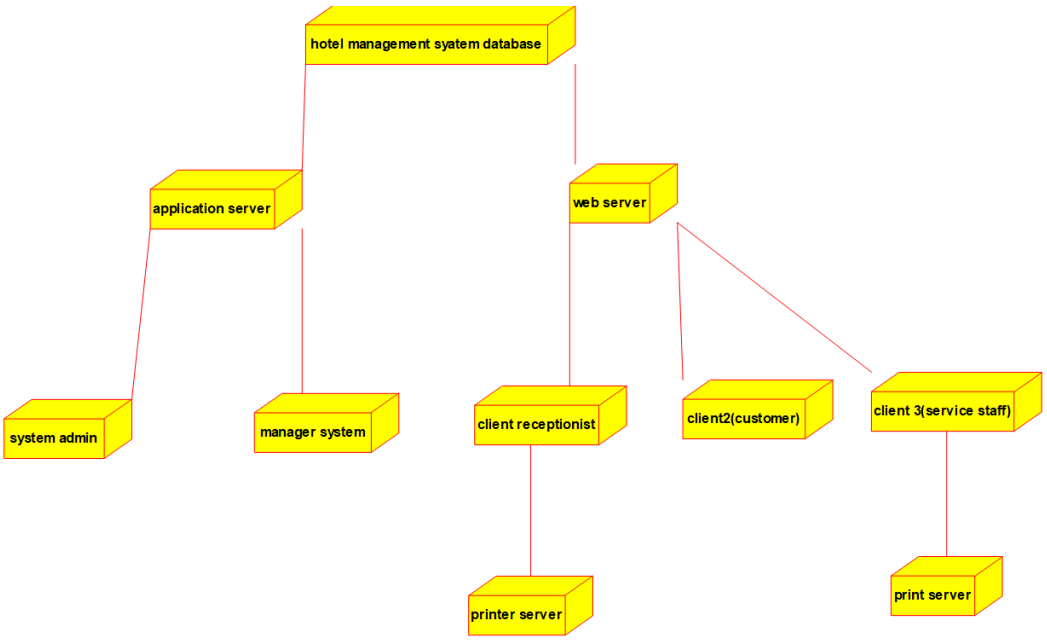
6.ACTIVITY DIAGRAM



7.COMPONENT DIAGRAM



8.DEPLOYMENT DIAGRAM



9.PACKAGE DIAGRAM

RESULT:

All **nine UML diagrams** for the **Hotel Reservation System** were successfully created.