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## Hotel Reservation Management System

**A luxury hotel chain wants to design a database system to handle its reservations, guests, rooms, and payments efficiently The chain operates several hotels:**

- Each identified by a unique hotel ID, name, star rating, address, city, and contact number.
- Each hotel has a manager responsible for operations, and every manager is also recorded in the system as a staff member.

**Each hotel contains multiple rooms:**

- Every room has a room number unique within that hotel, along with details such as room type (single, double, suite), capacity, daily rate, and availability status.
- Some rooms may offer additional amenities like sea view, balcony, or kitchen, which should also be stored.

**Guests are the central focus of the system:**

- Each guest has a unique guest ID, full name, date of birth, contact details, nationality, and ID/passport number.
- A guest can make multiple reservations, and some reservations can include more than one guest (such as families or business groups).

**A reservation is made for one or more rooms in a specific hotel:**

- It includes details such as reservation ID, check-in date, check-out date, booking date, number of adults and children, total price, and reservation status (e.g., confirmed, checked-in, canceled, completed).
- Because guests may share a reservation, the relationship between guests and reservations must support multiple guests per booking.

**Each reservation can have one or more payments associated with it:**

- Payments record payment ID, date, amount, method (credit card, cash, online), and confirmation number.
- Sometimes, a single reservation may be paid in multiple installments, while one payment may cover multiple reservations if handled by travel agencies.

### **The hotel also employs several staff members:**

- Each identified by a **staff ID**. For each staff member, the system should record full **name**, **position** (e.g., receptionist, cleaner, manager), **salary**, and **the hotel they work at**.
- **Staff can be assigned to assist with multiple reservations** — for example, a receptionist handles check-in/check-out, and a room service staff member may serve multiple guests.

### **Additionally, guests may request services during their stay, such as laundry, spa, or transportation**

- Each service request should record a **service ID**, **service name**, **request date**, **charge**, and **staff member who provided it**
- Since **one reservation can have many service requests**, and **staff members can fulfill requests for many reservations**, this relationship must be carefully modeled.

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