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INSTRUCTOR: DR. LE GRUENWALD

SCORE:

Problem 1 (a)

PROBLEM DESCRIPTION

A service that rents out select venues wants to create a database to track its reservation data and other related information. This the service provider allows companies to reserve venues through an online portal. The portal allows for other distinct options that gives the reserving company flexibility when booking. Below includes the initial requirements for this database.

- a. When creating an account on the online portal, the company must enter its unique name and its location. In some cases, the company might have a child company; if the company is either a parent or child, the database records the date that the parent company acquired the child company. One parent company can own many child companies.
- b. When a company reserves a venue, each reservation includes a reservation agreement associated with a unique ID and the payment sent. The database records the date of the reservation. It is possible for many companies can book many venues on the exact same date.
- c. For each venue, there is a name, address, and organizer stored in the database. The combination of the venue's name and address uniquely defines the venue.
- d. One venue may have many rooms, which the database stores a room number and its capacity. If the venue supplies rooms, then the room number identifies the room.
- e. A venue must be either staffed or unstaffed. If the venue does not staff employees, then the database records the total area of the venue (in square footage). If the venue staffs employees, the database stores a budget (in U.S. dollars) for the staffing of employees.
- f. Each staffed venue must employ staff members. For each staff member, the database records an ID, name, and phone number. The ID uniquely defines the staff member. Name includes first and last name. The database can record multiple phone numbers. One staffed venue can have many staff members.
- g. Staff members work on jobs. For each job that the staff member works on, the database records a start and end date. Many staff members can work on many jobs.
- h. Each job has a unique ID and a payment associated with it. The payment of the job relates to the compensation of the staff member.
- i. Every staff member that works on a job must sign a contract. The database stores the contract's unique ID, the date that the staff member signed the contract, and any details associated with the contract.

Problem 1 (b)

Company (name: string, location: string)

Owned_By (parent_name: string, child_name: string, date_acquired: date)

Reserves (company_name: string, venue_name: string, venue_address: string, reservation_id: int, date: date)

Reservation_Agreement (id: integer, payment: real)

Venue (name: string, address: string, organizer: string)

Has (venue_name: string, venue_address: string, room_number: int)

Room (number: int, capacity: int)

Unstaffed_Venue (venue_name: string, venue_address: string, total_area: real)

Staffed_Venue (venue_name: string, venue_address: string, budget: real)

Employs (venue_name: string, venue_address: string, staff_member_id: int)

Staff_Member (id: int, first_name: string, last_name: string, {phone_number}: string)

Works_On (staff_member_id: string, job_id: int, start_date: date, end_date: date)

Job (job_id: int, payment: real)

Signs (staff_member_id: string, job_id: int, contract_id: int)

Contract (contract_id: int, date_signed: date, details: string)

Problem 1 (c)

