Problem 1.
   a) Description for the ER diagram:

An event hosting company wants a database to keep track of their venue rental side of the business.

Each venue needs to be stored in the database with its name, address, and organizer. The name and the address can combine to create the unique key.

Each venue can be categorized as either unstaffed or staffed. Unstaffed venues have a total area, while staffed have a budget.

Staffed venues employ staff members. Each staff member must be employed by exactly one venue. Staff members have an id, a first name, last name, and phone number(s) stored.

Staff members can work on a job with a start date and end date. Each job has a unique id and payment value stored.

A contract can be signed by a staff member working on a job that includes a contract id, the date signed and the details. Each contract must be signed by a staff member working on a job, and a staff member working on a job can only sign one contract..

A venue can have any number of rooms which are unique to the venue via a room number. A room also has a capacity.

A company can reserve a venue on a date. Each reservation has a reservation agreement with a unique id and payment.

A venue can reserve any number of times on the same date by the same company. Companies are stored uniquely by their name, and also store their location.

Any number of companies can be owned by another company with an acquisition date.

b) Convert the ER diagram to a Relational Database

Room(room_number, venue_name, venue_address, capacity)

Venue(venue_name, venue_address, organizer)

Reserves(venue_name, venue_address, company_name, reservation_id, date)

Reservation_Agreement(reservation_id, payment)

Company(company_name, location)

Owned_Company(child_company_name, parent_company_name, date_acquired)

Staffed_Venue(venue_name, venue_address, budget)

Unstaffed_Venue(venue_name, venue_address, total_area)

Staff_Member(staff_id, first_name, last_name, venue_name, venue_address)

Phone_Number(staff_id, phone_number)

Works_On(staff_id, job_id, start_date, end_date)

Job(job_id, payment)

Contract(contract_id, staff_id, job_id, date_signed, details)

c)   Schema Diagram for the relational database

Room
room_number
venue_name
venue_address
capacity

Venue
venue_name
venue_address
organizer

Rerserves
venue_name
venue_address
company_name
reservation_id
date

Reservation_Agreement
reservation_id
payment

Company
company_name
location

Unstaffed_Venue
venue_name
venue_address
total_area

Staffed_Venue
venue_name
venue_address
budget

Staff_Member
staff_id
first_name
last_name
venue_address
venue_name

Owned_Company
child_company_name
parent_company_name
date_acquired

Contract
contract_id
staff_id
job_id
date_signed
details

Works_On
staff_id
job_id
start_date
end_date

Job
job_id
payment

Phone_Number
staff_id
phone_number