INFS 4790 / 5790
Data Modeling

Luxury-Oriented Scenic Tours (LOST) provides guided tours to groups of visitors to the Washington D.C. area. In recent years, they have grown quickly and are having difficulty keeping up with all of the various information needs of the company. You have been hired to design a database to track information regarding the company's operations. Draw a complete ERD of a database design to meet their needs.

LOST offers many different tours. For each tour, the tour name, approximate length (in hours), and fee charged is needed. Guides are identified by an employee id, but the system should also record a guide's name, home address, and date of hire. Guides take a test to be qualified to lead specific tours. It is important to know which guides are qualified to lead which tours and the date that they successfully passed the qualification test for each tour. A guide may be qualified to lead many different tours. A tour can have many different qualified guides. New guides may or may not be qualified to lead any tours, just as a new tour may or may not have any qualified guides.

Every tour must be designed to visit at least three locations. For each location, a name, type, and official description are kept. Some locations (e.g. the White House) are visited by more than one tour, while others (e.g. Arlington Cemetery) are visited by a single tour. All locations are visited by at least one tour.

When a tour is actually given, that is referred to as an "outing". LOST schedules outings well in advance so they can be advertised and so employees can plan for their upcoming work schedules. A tour can have many scheduled outings, although newly designed tours may not have any outings scheduled. Each outing is for a single tour and is scheduled for a particular date and time. Each outing also has a maximum capacity that specifies the maximum number of clients allowed to sign up for that outing. All outings must be associated with a tour. All tours at LOST are guided tours, so a guide must be assigned to each outing. Each outing has one and only one guide. Guides are occasionally asked to lead an outing of a tour even if they are not officially qualified to lead that tour. Newly hired guides may not have ever been scheduled to lead any outings. Tourists, called "Clients" by LOST, pay to join a scheduled outing. For each client, the name, and telephone number are recorded. Clients may signup to join many different outings, and each outing can have many clients. The date that a client signs up for an outing should be recorded. Information is kept only on clients that have signed up for at least one outing, although newly scheduled outings may not have any clients signed up yet.

Tours ERD

OUTING
- Outing_ID
- Tour_ID
- Gui_ID
- Out_Date
- Out_Capacity
- Out_Time

TOUR
- Tour_ID
- Tour_Name
- Tour_Length
- Tour_Fee

TOUR_GUIDES
- Tour_ID
- Gui_ID
- Qualified_Date

GUIDES
- Gui_ID
- Gui_Fname
- Gui_Lname
- Gui_Street
- Gui_City
- Gui_State
- Gui_Zipcode
- Gui_Hire_Date

OUTING_CLIENT
- Outing_ID
- Client_ID
- Client_Outing_Date

TOUR_LOCATION
- Tour_ID
- Loc_ID

CLIENT
- Client_ID
- Client_Fname
- Client_Lname
- Client_Phone

LOCATION
- Loc_ID
- Loc_Name
- Loc_Type
- Loc_Description