Tutorial 2: Logical Database Design

Case Study: Mapping an Entity-Relationship Diagram to the Relational Model

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Here are the tables determined so far:

1. Customer (dlicense, phone, name, addr)
   Primary key: dlicense
   Alternate key: (phone, name)

2. ClubMember (dlicense, points, fees)
   Primary key: dlicense
   Foreign key: dlicense references Customer

3. Branch (location, city)
   Primary key: location, city

4. VehicleType (vtname, features, wrate, drate, hrate, krate, wirate, dirate, hirate)
   Primary key: vtname

5. Vehicle (vlicense, initprice, make, model, year, color, odometer, status, forRentFlag, location, city, vtname)
   Primary key: vlicense
   Foreign key(s): (location, city) references Branch, vtname references VehicleType

6. Reservation (confNo, fromDate, fromTime, toDate, toTime, dlicense, vtname, location, city)
   Primary key: confNo
   Foreign key(s): dlicense references Cusomter, vtname references VehicleType, (location, city) references Branch

7. RentalAgreement (rentId, cardNo, expDate, odometer, rentedfromDate, rentedfromTime, rentedtoDate, rentedtoTime, vlicense, dlicense, confNo, returnCost, returnTime, returnDate, returnFulltank, returnOdometer)
   Primary key: rentId
   Foreign key(s): vlicense references Vehicle, dlicense references Customer,

(rentedfromDate, rentedfromTime, rentedtoDate, rentedtoTime) references TimePeriod, confNo references Reservation

8. TimePeriod (fromDate, fromTime, toDate, toTime)
   Primary key : (fromDate, fromTime, toDate, toTime)

Lastly, list any additional tables, their primary key(s), and their foreign key(s):

1. VehicleForSale (vlicense, saleDate, price, agent)
   Primary Key: vlicense