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 (<u>dlicense</u>, phone, name, addr)
   Primary key: dlicense
   Alternate key: (phone, name)

2. ClubMember (<u>dlicense</u>, points, fees)
   Primary key: dlicense
   Foreign key: dlicense references Customer

3. Branch (<u>location</u>, <u>city</u>)
   Primary key: location, city

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

5. Vehicle (<u>vlicense</u>, 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 (<u>confNo</u>, **fromDate, fromTime, toDate, toTime, dlicense, vtname, location, city**)
   Primary key: confNo
   Foreign key(s): dlicense references Cusomter, vtname references VehicleType, (location, city) references Branch, (fromDate, fromTime, toDate, toTime) references TimePeriod

7. RentalAgreement (<u>rentId</u>, 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
Foreign key: vlicense references Vehicle