WEEK 4 Lab - Normalization Diagram Creation

2022/06/09

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* PT\_SESSION  
   (Trainer, Phone, Email, Fee, ClientLastName, ClientFirstName, ClientPhone, ClientEmail, Date, Time)
* CLUB\_MEMBERSHIP   
  (ClientNumber, ClientLastName, ClientFirstName, ClientPhone, ClientEmail, MembershipType, EndingDate, Street, City, State, Zip)
* CLASS   
  (ClassName, Trainer, StartDate, EndDate, Time, DayOfWeek, Cost)

1. Identify possible multivalued dependencies in these tables.
   1. PT\_SESSION  
      Trainer, Phone, Email and Fee multidetermined ClientLastName, ClientFirstName, ClientPhone, ClientEmail, Date and Time
   2. CLUB\_MEMBERSHIP  
      Street, City, State, Zip multidetermined ClientNumber, ClientLastName, ClientFIrstName, ClientPhone, ClientEmail, MembershipType, EndingDate
   3. CLASS  
      ClassName multidetermined Trainer, StartDate, EndDate, Time and DayOfWeek
2. Identify possible functional dependencies in these tables.
   1. PT\_SESSION  
      - Trainer -> Phone, Email, Fee, ClientName, Date and Time  
      - ClientLastName, ClientFirstName -> ClientPhone and ClientEmail
   2. CLUB\_MEMBERSHIP  
      - ClientNumber -> ClientLastName, ClientFirstName, ClientEmail, MembershipType, EndingDate  
      - Zip -> Street, City, State
   3. CLASS  
      - ClassName -> Cost
3. Determine whether each table is in 3NF. State your assumptions.  
     
   If class and trainer had one-one relationship and class only do once a week, table CLASS would be in 3NF.
4. Modify each of these tables so that every table is in 3NF. Use the assumptions you made in your answer to Question 3.
   1. PT\_SESSION  
      - TrainerNumber, ClientNumber, Date, Time  
      - TrainerNumber, Trainer, Phone, Email, Fee  
      - ClientNumber, ClientLastName, ClientFirstName, ClientPhone, ClientEmail
   2. CLUB\_MEMBERSHIP  
      - ClientNumber, MembershipNumber, EndingDate, ZIP  
      - ClientNumber, ClientLastName, ClientFirstName, ClientPhone, ClientEmail (it’s a same table in 4.1. PT\_SESSION)  
      - MembershipNumber, MembershipType  
      - ZIP, Steet, City, State
   3. CLASS  
      - ClassName, TrainerNumber, StartDate, EndDate, Time, DayOfWeek, Cost  
      - TrainerNumber, Trainer, Phone, Email, Fee (it’s a same table in 4.1. PT\_SESSION)  
      - DayOfWeekID, DayOfWeek