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Lab 9 : Normalization Three

1. **Functional Dependencies**
   People
          PID→firstName, lastName,DOB, streetAddress
   Players
          playerId→emergencyNum, emergencyContact
   League
          LID→minAge, maxAge
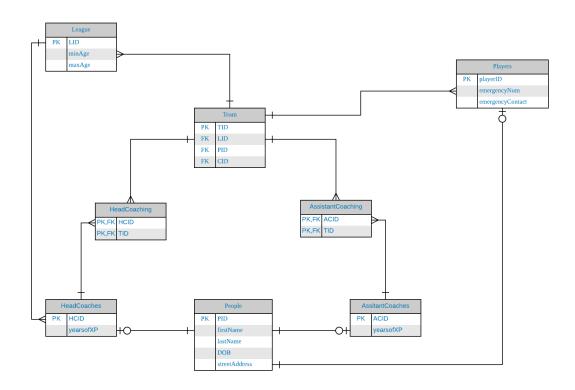   Coaching
          TID,LID,CID→Role
   Coach
          CID→yearsofXP
   HeadCoaching
          HCID→yearsofXP
   AssistantCoaching
          ACID→yearsofXP

2. ER Diagram

League

PK	LID
	minAge
	maxAge

Players

PK	playerID
	emergencyNum
	emergencyContact

Team

PK	TID
FK	LID
FK	PID
FK	CID

HeadCoaching

PK,FK	HCID
PK,FK	TID

AssistantCoaching

PK,FK	ACID
PK,FK	TID

HeadCoaches

PK	HCID
	yearsofXP

People

PK	PID
	firstName
	lastName
	DOB
	streetAddress

AssitantCoaches

PK	ACID
	yearsofXP

3. For a database to meet the 3NF criteria, initially it must be in 2NF. For a database to be in 2NF, it must first be in 1NF. This particular database for the Belters Little League Sports Alliance is definitely in 1NF because all intersections are atomic and only contain a single value. The database is thus allowed to be considered 2NF since it already meets the criteria of 1NF and everything is functionally dependent on a primary key. Since this database is in 2NF, and every attribute is dependent on only the key and nothing but the whole entire key, this database is in 3NF.