Persons person_id first name Mistake: Persons to coaches last_name should be one to one address phone_number Coaches coach_id years coaching Players player_id team_id Head_Coach Assistant_Coaches head_coach_id assistant_coach_id years_coaching years_coaching head_coach_id assistant_coach_id references coach_id references coach id coaches_teams Teams coach_id FK team id PK,FK team_id team_name FK age_group_id coach_id Leagues age_group_id league_id minimum_age Age Group maximum_age age_group_id minimum_age

maximum_age

Database for the Belters Little League Sports Alliance on Ceres Station

Functional Dependencies:

Persons:

Person_id → first_name, last_name, address, phone_number

Coaches:

Coach_id → years_coaching

Head_coach_id → years_coaching

Assistant_coach_id → years_coaching

NOTE: head_coach_id references Coaches(coach_id)

NOTE: Assistant_coach_id references Coaches(coach_id)

Players:

Payer_id → team_id, year

Teams:

Team_id → age_group_id, team_name, coach_id

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Leagues:

League_id → league_name, team_id

Age Group

Age_group_id → min_age, max_age

How and Why is this data in 3rd normal form?

This database should be in third normal form because each attribute is associated with only ONE primary key. For tables containing composite primary keys, each attribute describes the whole key and nothing but they key. Additionally, it's in 3NF because it is also in 2NF (no partial key dependencies) and 1NF (atomization).

In the coaches_teams table, there is a composite primary key. This is because a coach can have a different role in different years of coaching. The year attribute specifically describes a **specific** coach on a **specific** team in a **specific** year.