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Database (CMPT 308)
Normalization Homework 3
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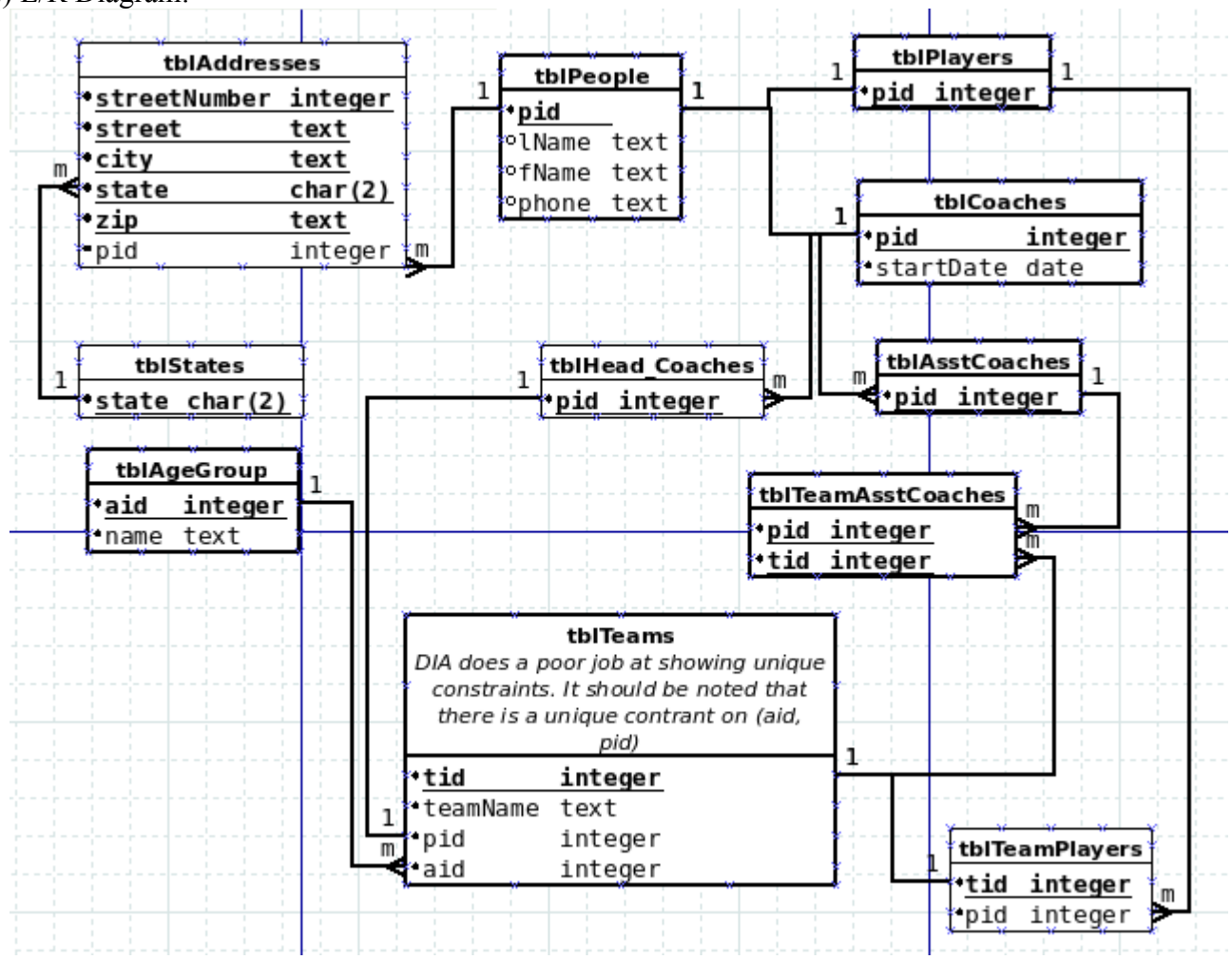
1) Identify and document all functional dependencies:

- **Addresses:** (streetNumber, street, city, state, zip) → pid
- **States:** (state) →
- **People:** (pid) → lName, fName, phone
- **Players:** (pid) →
- **Coaches:** (pid) → startDate
- **Asst_Coaches:** (pid) →
- **Head_Coaches** (pid) →
- **Teams_AsstCoaches:** (pid, tid) →
- **Teams:** (tid) → teamName, pid, aid
- **Teams: (unique)** (aid, pid) →
- **Age_Groups:** (aid) → name
- **Team Players:** (tid) → pid

2) E/R Diagram:



3) This database is in 3NF because of the following:

- There are no insert anomalies. A person can only be a player, asst coach or head coach by being placed into the proper tables. You can not put an asst coach on a team in place of a head coach. Age groups are controlled via the age groups table and the unique constraint on teams. You will not be able to place player or coach on a team they should not be.
- There are no delete anomalies. A player or coach can be removed from a team without them being removed from their underlying position on the team. Another example is age groups can be removed without removing their existence.
- There are no update anomalies. If you need to change information about a coach or player it is done in one location. Age groups can be added without needing a team.
- Every non-key attribute provides a fact about the key and nothing but the key.

4) View for 10 – 14 age group

```
CREATE VIEW tenToForteen AS
(
SELECT t.teamname AS "Team Name", a.name AS "Age Range"
  FROM teams t, age_groups a
 WHERE t.aid = a.aid
   AND a.name = '10 - 14'
);

SELECT *
  FROM tenToForteen
```

	Team Name text	Age Range text
1	foxes	10 - 14
2	winners	10 - 14