

## Lab 09

### 1.) Leagues

league\_name -> \* none \*

#### Teams

team\_name -> the set and all subsets of {league\_name, age\_group}

#### People

Pid -> the set and all subsets of {fname, lname, address, phonenumber}

#### Team Players

pid -> team\_name

#### Coaches

pid -> years\_coached

#### Team Coaches

tcid -> the set and all subsets of {age\_group, team\_name}

tcid -> {pid, age\_group}

tcid -> {pid, team\_name }

(pid, age\_group) -> tcid

(pid, team\_name) -> tcid

#### Assistant\_Coaches

tcid -> \* none \*

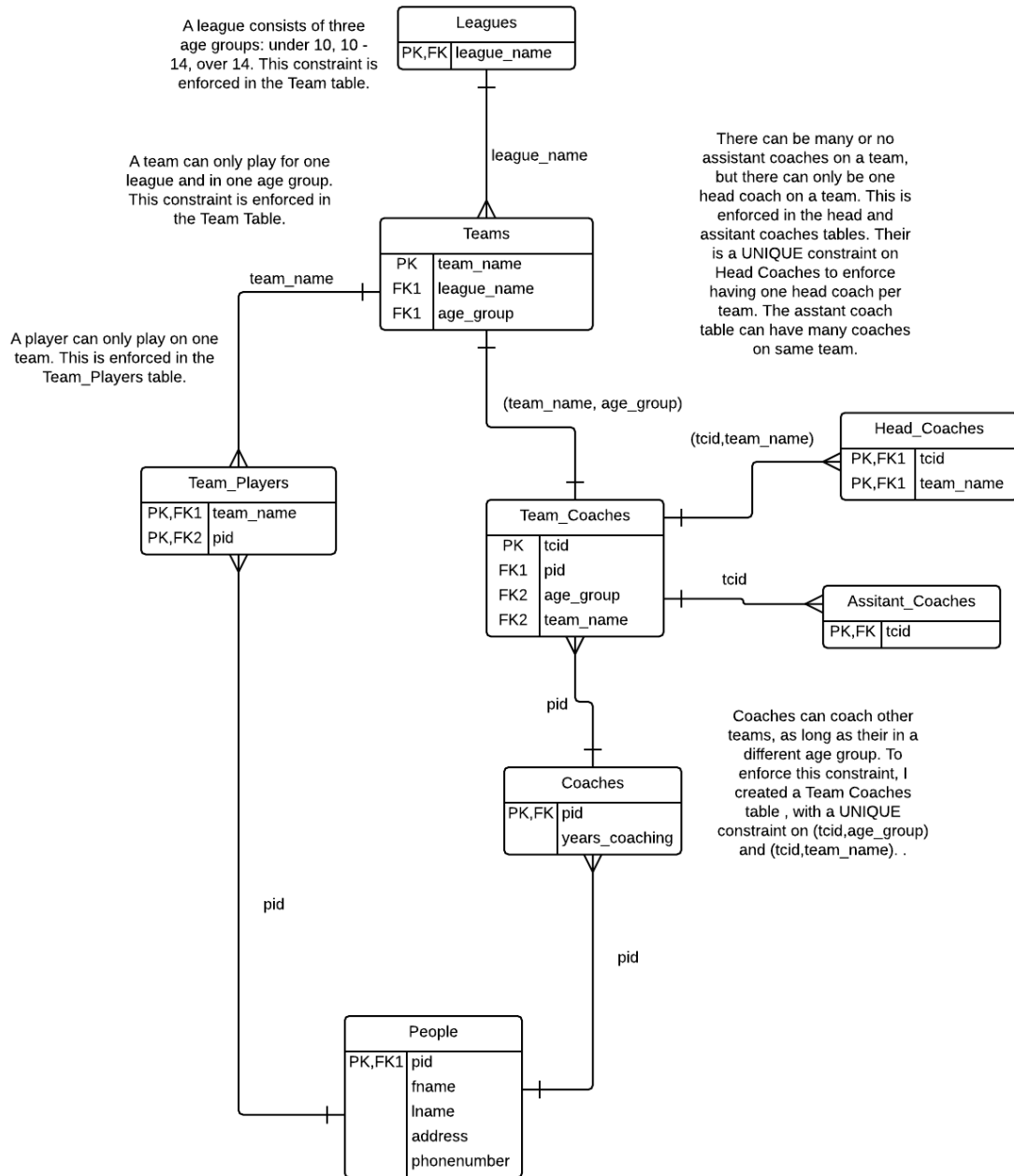
#### Head Coaches

(tcid, team\_name) -> none

### 2.)

# Lab 09 League

## Entity Relationship Diagram



3.) To prove my database is in NF3, first I must prove its in NF1. Its in NF1 as all data is atomic. Next I prove its in NF2. Its in NF2 as its in NF1, and using the dependencies I see there are no non-primary attributes dependent on just one part of a subset of a candidate key. Finally I prove its in NF3. Its in NF3 as its in NF2, and there are no transitive dependencies in the form  $A \rightarrow B$  and  $B \rightarrow C$  so  $A \rightarrow C$  where  $A \neq C$ . There are transitive dependencies on the Team\_Coaches table, but a  $\text{UNIQUE}(\text{pid}, \text{team\_name})$  and  $\text{UNIQUE}(\text{pid}, \text{age\_group})$  enforce BCNF.