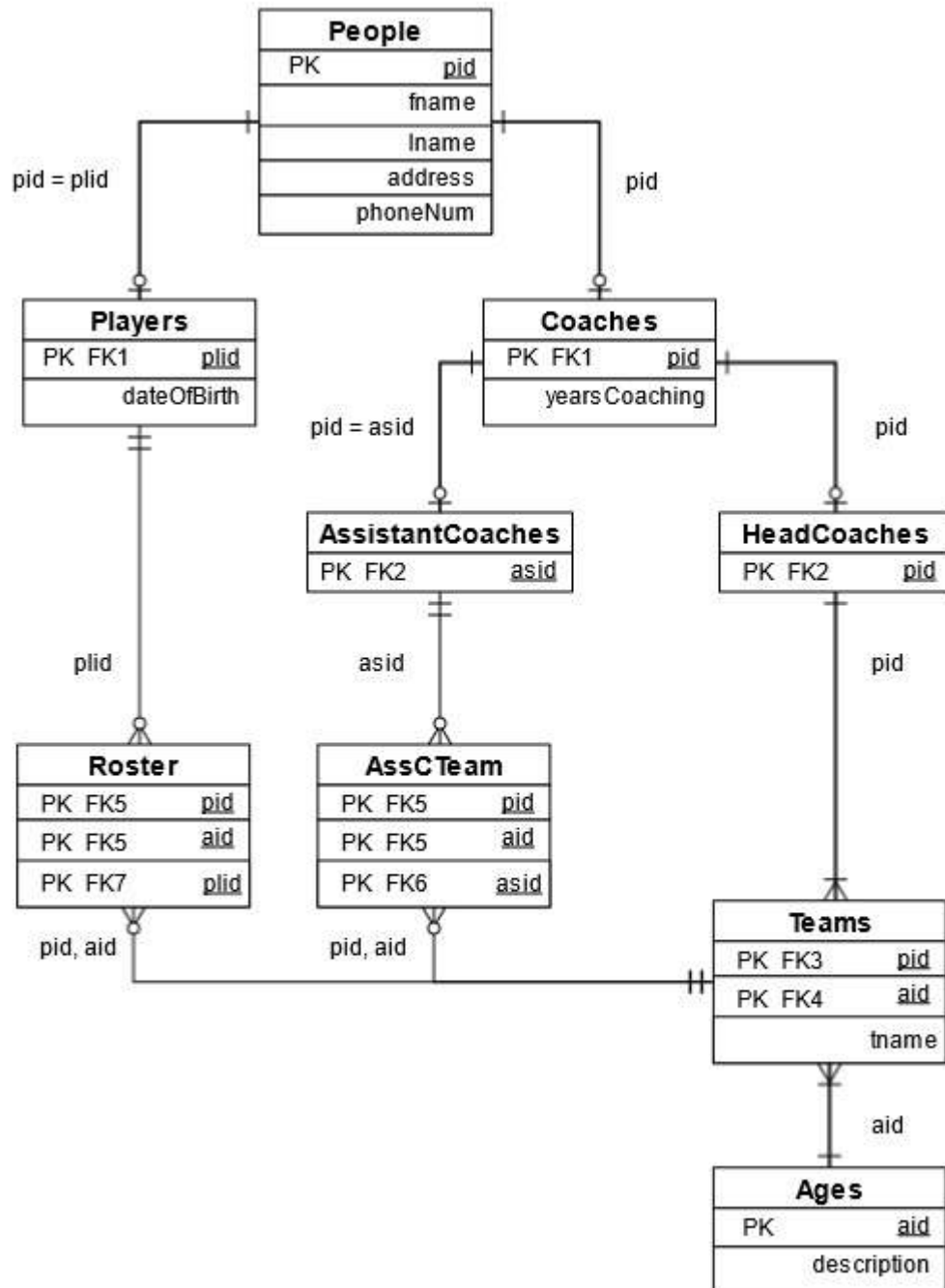


E-R Diagram



```
CREATE TABLE People
(
  pid integer NOT NULL,
  fname text NOT NULL,
  lname text NOT NULL,
  address text NOT NULL,
  phoneNum text NOT NULL,
  PRIMARY KEY (pid)
)
```

```
CREATE TABLE Players
(
  plid integer NOT NULL references peopleN3(pid) primary key,
  dateOfBirth text NOT NULL
)
```

```
CREATE TABLE Coaches
(
  pid integer NOT NULL references peopleN3(pid) primary key,
  yearsCoaching int Not Null
)
```

```
CREATE TABLE AssistantCoaches
(
  asid integer NOT NULL references Coaches(pid) primary key
)
```

```
CREATE TABLE HeadCoaches
(
  pid integer NOT NULL references Coaches(pid) primary key
)
```

CREATE TABLE Ages

(
aid integer NOT NULL primary key,
description text NOT NULL
)

CREATE TABLE Teams

(
pid integer NOT NULL references headCoaches(pid),
aid int NOT NULL references Ages(aid),
tname text NOT NULL,
primary key(pid,aid)
)

CREATE TABLE Roster

(
pid integer NOT NULL,
aid int NOT NULL,
plid int NOT NULL references players(plid),
foreign key (pid, aid) references teams(pid,aid),
primary key(pid,aid, plid)
)

CREATE TABLE AssCTeam

(
pid integer NOT NULL,
aid int NOT NULL,
asid int NOT NULL references AssistantCoaches(asid),
foreign key (pid, aid) references teams(pid,aid),
primary key(pid,aid, asid)
)

Functional Dependencies:

People: pid -> fname, lname, address, phoneNum

Players: plid -> dateOfBirth

Coaches: pid -> yearsCoaching

AssistantCoaches: asid

HeadCoaches: pid

Teams: pid, aid -> tname

Ages: aid -> description

Roster: pid, aid, plid

AssCoachTeam: pid, aid, asid

Prove 3NF:

The database is in 3rd normal form because there are no multiple key or partial key dependencies. The Primary keys of all the tables can not be replaced by attributes, since attributes like tname, description, fname, and even phoneNum might not be unique and therefore can not be used to determine the rest of the given table. It is also in Boyce-Codd normal form since there are no transitive dependencies.

Write a view to display all the teams in the 10-14 age group.

Create view TeamsAges10to14

as

select tname as "Team Name"

from teams, ages

where teams.aid = ages.aid AND ages.description = '10-14'