1-12 are Entities and 13-26 are relationships

A short grouping of the primary keys is at the bottom for easy merging.

1)

CREATE TABLE Player\_Stats

(idPlayer INTEGER NOT NULL,

AllStar\_Appearances INTEGER,

Points FLOAT,

Assists FLOAT,

Rebounds FLOAT,

PRIMARY KEY (idPlayer))

2)

CREATE TABLE NBA\_Player

(idPlayer INTEGER NOT NULL,

Position CHAR (50),

isActive BOOLEAN,

namePlayer CHAR (50),

idTeam INTEGER,

fromYear INTERGER,

toYear INTEGER,

PRIMARY KEY (idPlayer))

3)

CREATE TABLE Drafted\_Player

(idPlayer INTEGER NOT NULL,

namePlayer CHAR(50),

numberRoundPick INTEGER,

yearDraft INTEGER,

numberRound INTEGER,

numberPickOverall INTEGER,

PRIMARY KEY (idPlayer))

4)

CREATE TABLE nonNBA\_Player

(namePlayer CHAR (50) NOT NULL,

typeOrganization CHAR (50),

nameOrganization CHAR (50),

PRIMARY KEY (namePlayer))

5)

CREATE TABLE Country

(countryName CHAR (50) NOT NULL,

PRIMARY KEY (countryName))

6)

CREATE TABLE City

(city CHAR (50) NOT NULL,

State CHAR (50),

PRIMARY KEY (city))

7)

CREATE TABLE Arena

(nameArena CHAR (50) NOT NULL,

ArenaCapacity INTEGER,

PRIMARY KEY (nameArena))

8)

CREATE TABLE Team

(idTeam INTEGER NOT NULL,

nameTeam CHAR (50),

GeneralManager CHAR (50),

yearFounded INTEGER,

headCoach CHAR (50),

nickname CHAR (20),

Owner CHAR (50),

Abbreviation CHAR (3)

PRIMARY KEY (idTeam))

9)

CREATE TABLE Referee

(idReferee INTEGER NOT NULL,

lastName Char (25),

firstName Char (25),

jerseyNum INTEGER,

PRIMARY KEY (idReferee))

10)

CREATE TABLE Game

(idGame INTEGER NOT NULL,

idTeamHome INTEGER NOT NULL,

idTeamAway INTEGER NOT NULL,

idSeason INTEGER NOT NULL,

gameDate CHAR (10),

WL\_home CHAR (1),

WL\_away CHAR (1),

PRIMARY KEY (idGame)

FOREIGN (idTeamHome) REFERENCES Team(idTeam),

FOREIGN KEY (idTeamAway) REFERENCES Team(idTeam),

FOREIGN KEY (idSeason) REFERENCES Season)

11)

CREATE TABLE Season

(idSeason INTEGER NOT NULL,

Year INTEGER,

PRIMARY KEY (idSeason))

12)

CREATE TABLE Game\_Stats

(idGame INTEGER NOT NULL,

STL\_away INTEGER,

STL\_home INTEGER,

AST\_away INTEGER,

AST\_home INTEGER,

PTS\_away INTEGER,

PTS\_home INTEGER,

FGM\_away INTEGER,

FGM\_home INTEGER,

FTM\_away INTEGER,

FTM\_home INTEGER,

REB\_away INTEGER,

REB\_home INTEGER,

PRIMARY KEY (idGame))

13)

CREATE TABLE Has

(idPlayer INTEGER NOT NULL,

PRIMARY KEY (idPlayer)

FOREIGN KEY (idPlayer) REFERENCES NBA\_Player and Player\_Stats)

14)

CREATE TABLE become

(namePlayer CHAR (50) NOT NULL,

idPlayer INTEGER,

PRIMARY KEY (namePlayer)

FOREIGN KEY (namePlayer) REFERENCES nonNBA\_Player

FOREIGN KEY (idPlayer) REFERENCES NBA\_Player and Drafted\_Player)

15)

CREATE TABLE fromCountry (NBA\_Player to Country)

(countryName CHAR (50),

idPlayer INTEGER NOT NULL,

PRIMARY KEY (idPlayer)

FOREIGN KEY (idPlayer) REFERENCES NBA\_Player

FOREIGN KEY (countryName) REFERENCES Country)

16)

CREATE TABLE Relationship

(city CHAR (50) NOT NULL,

countryName CHAR (50)

PRIMARY KEY (city)

FOREIGN KEY (city) REFERENCES City

FOREIGN KEY (countryName) REFERENCES Country)

17)

CREATE TABLE Located

(city CHAR (50) NOT NULL,

nameArena CHAR (50)

PRIMARY KEY (city)

FOREIGN KEY (city) REFERENCES City

FOREIGN KEY (nameArena) REFERENCES Arena)

18)

CREATE TABLE PlaysIn

(idPlayer INTEGER NOT NULL,

idTeam INTEGER,

PRIMARY KEY (idPlayer)

FOREIGN KEY (idPlayer) REFERENCES NBA\_Player

FOREIGN KEY (idTeam) REFERENCES Team)

19)

CREATE TABLE PlayDuring

(idPlayer INTEGER NOT NULL,

idSeason INTEGER,

PRIMARY KEY (idPlayer)

FOREIGN KEY (idPlayer) REFERENCES NBA\_Player

FOREIGN KEY (idSeason) REFERENCES Season)

20)

CREATE TABLE From

(idTeam INTEGER NOT NULL,

City CHAR (50),

PRIMARY KEY (idTeam)

FOREIGN KEY (idTeam) REFERENCES Team

FOREIGN KEY (city) REFERENCES City)

21)

CREATE TABLE TeamHasArena

(idTeam INTEGER NOT NULL,

nameArena CHAR (50)

PRIMARY KEY (idTeam)

FOREIGN KEY (idTeam) REFERENCES Team

FOREIGN KEY (nameArena) REFERENCES Arena)

22)

CREATE TABLE TakesPlace

(idGame INTEGER NOT NULL,

idSeason INTEGER,

PRIMARY KEY (idGame)

FOREIGN KEY (idGame) REFERENCES Game

FOREIGN KEY (idSeason) REFERENCES Season)

23)

CREATE TABLE FaceIn

(idTeam INTEGER NOT NULL,

idGame INTEGER NOT NULL,

PRIMARY KEY (idTeam, idGame)

FOREIGN KEY (idTeam) REFERENCES Team

FOREIGN KEY (idGame) REFERENCES Game)

24)

CREATE TABLE TakesPlaceIn

(idGame INTEGER NOT NULL,

nameArena CHAR (50),

PRIMARY KEY (idGame)

FOREIGN KEY (idGame) REFERENCES Game

FOREIGN KEY (nameArena) REFERENCES Arena)

25)

CREATE TABLE Oversee

(idReferee INTEGER NOT NULL,

idGame INTEGER,

PRIMARY KEY (idReferee)

FOREIGN KEY (idReferee) REFERENCES Referee

FOREIGN KEY (idGame) REFERENCES Game)

26)

CREATE TABLE GameHasStats

(idGame INTEGER NOT NULL,

PRIMARY KEY (idGame)

FOREIGN KEY (idGame) REFERENCES Game and Game\_Stats)

Player\_Stats -> idPlayer

NBA\_Player -> idPlayer

Has (NBA\_Player to Player\_Stats) -> idPlayer

Drafted\_Player -> idPlayer

From (NBA\_Player to Country) -> idPlayer

Plays in a -> idPlayer

Play during -> idPlayer

nonNBA\_Player -> namePlayer

become -> namePlayer

Country-> countryName

City -> city

Relationship -> city

Located -> city

Arena -> nameArena

Team -> idTeam

From (Team to City) -> idTeam

Has (Team to Arena) -> idTeam

Face in -> idTeam, idGame

Season -> idSeason

Takes place -> idGame

Game -> idGame

Takes place in -> idGame

Game\_Stats -> idGame

Has (Game to Game\_Stats) -> idGame

Referee -> idReferee

Oversee -> idReferee

## Schema Overview

**(Entities in blue and Relationships in Red)**

**Player\_Stats**(idPlayer, AllStar\_Appearances, Poijnts, Assists, Rebounds);

**NBA\_Player**(idPlayer, Position, isActive, namePlayer, idTeam, fromYear, toYear);

**Draft\_Player**(idPlayer, numberRoundPick, yearDraft, numberRound);

**nonNBA\_Player**(namplayer, typeOrganization, nameOrganization);

**Country**(countryName);

**City**(city, state);

**Area**(nameArena, ArenaCapacity);

**Team**(idTeam, nameTeam, GeneralManager, yearFounded, headCoach, nickname,Owner, Abbreviation);

**Referee**(idReferee, lastNmae, firstName, jerseyNum);

**Game**(idGame, idTeamHome, idTeamAway, idSeason, gameDate, WL\_home,WL\_away) , where foreign key idTeamHome REFERENCES Team, foreign key idTeamAway REFERENCES Team, foreign key idSeason REFERENCES Season);

**Season**(idSeason, year)

**Game\_Stats**(idGame, STL\_away, STL\_home, AST\_away, AST\_home, PTS\_away, PTS\_home,FGM\_away, FGM\_home, FTM\_away, FTM\_home, REB\_away, REB\_home);

**Has**(idPlayer) foreign key idPlayer REFERENCES NBA\_Player and Player\_Stats

**become**(namePlayer), where FOREIGN KEY (namePlayer) REFERENCES nonNBA\_Player, FOREIGN KEY (idPlayer) REFERENCES NBA\_Player and Drafted\_Player

**from**(idPlayer, countryName), where FOREIGN key REFERENCES NBA\_Player, FOREIGN KEY countryName REFERENCES Country;

**Relationship**(city, countryName), where FOREIGN KEY (city) REFERENCES City, FOREIGN KEY (countryName) REFERENCES Country

**Located**(city, nameArena), where FOREIGN KEY (city) REFERENCES City, FOREIGN KEY (nameArena) REFERENCES Arena

**PlaysIn**(idPlayer, idTeam), where FOREIGN KEY (idPlayer) REFERENCES NBA\_Player, FOREIGN KEY (idTeam) REFERENCES Team

**PlayDuring**(idPlayer, idSeason), where FOREIGN KEY (idPlayer) REFERENCES NBA\_Player, FOREIGN KEY (idSeason) REFERENCES Season

**From**(idTeam, City), where FOREIGN KEY (idTeam) REFERENCES Team, FOREIGN KEY (city) REFERENCES City

**TeamHasArena**(idTeam, nameArena), where FOREIGN KEY (idTeam) REFERENCES Team, FOREIGN KEY (nameArena) REFERENCES Arena

**TakePlace**(idGame, idSeason), where FOREIGN KEY (idGame) REFERENCES Game, FOREIGN KEY (idSeason) REFERENCES Season

**FaceIn**(idTeam, idGame), where FOREIGN KEY (idTeam) REFERENCES Team, FOREIGN KEY (idGame) REFERENCES Game

**TakePlaceIn**(idGame, nameArena), where FOREIGN KEY (idGame) REFERENCES Game, FOREIGN KEY (nameArena) REFERENCES Arena

**OverSee**(idReferee, idGame), where FOREIGN KEY (idReferee) REFERENCES Referee, FOREIGN KEY (idGame) REFERENCES Game

**GameHasStats**(idGame), where FOREIGN KEY (idGame) REFERENCES Game and Game\_Stats

## **ReOrdered Schema Overview**

**(Entities in blue and Relationships in Red)**

**Player\_Stats**(idPlayer, AllStar\_Appearances, Points, Assists, Rebounds);

**Has**(idPlayer), where FOREIGN KEY idPlayer REFERENCES NBA\_Player and Player\_Stats;

**NBA\_Player**(idPlayer, Position, isActive, namePlayer, idTeam, fromYear, toYear);

**become**(namePlayer), where FOREIGN KEY (namePlayer) REFERENCES nonNBA\_Player, FOREIGN KEY (idPlayer) REFERENCES NBA\_Player and Drafted\_Player

**Draft\_Player**(idPlayer, numberRoundPick, yearDraft, numberRound);

**nonNBA\_Player**(namePlayer, typeOrganization, nameOrganization);

**fromCountry**(idPlayer, countryName), where FOREIGN key REFERENCES NBA\_Player, FOREIGN KEY countryName REFERENCES Country;

**Country**(countryName);

**Relationship**(city, countryName), where FOREIGN KEY (city) REFERENCES City, FOREIGN KEY (countryName) REFERENCES Country

**City**(city, state);

**Located**(city, nameArena), where FOREIGN KEY (city) REFERENCES City, FOREIGN KEY (nameArena) REFERENCES Arena

**Area**(nameArena, ArenaCapacity);

**PlaysIn**(idPlayer, idTeam), where FOREIGN KEY (idPlayer) REFERENCES NBA\_Player, FOREIGN KEY (idTeam) REFERENCES Team

**From**(idTeam, City), where FOREIGN KEY (idTeam) REFERENCES Team, FOREIGN KEY (city) REFERENCES City

**TeamHasArena**(idTeam, nameArena), where FOREIGN KEY (idTeam) REFERENCES Team, FOREIGN KEY (nameArena) REFERENCES Arena

**Team**(idTeam, nameTeam, GeneralManager, yearFounded, headCoach, nickname,Owner, Abbreviation);

**OverSee**(idReferee, idGame), where FOREIGN KEY (idReferee) REFERENCES Referee, FOREIGN KEY (idGame) REFERENCES Game

**Referee**(idReferee, lastNmae, firstName, jerseyNum);

**FaceIn**(idTeam, idGame), where FOREIGN KEY (idTeam) REFERENCES Team, FOREIGN KEY (idGame) REFERENCES Game

**TakePlaceIn**(idGame, nameArena), where FOREIGN KEY (idGame) REFERENCES Game, FOREIGN KEY (nameArena) REFERENCES Arena

**Game**(idGame, idTeamHome, idTeamAway, idSeason, gameDate, WL\_home,WL\_away), where FOREIGN KEY (idTeamHome) REFERENCES Team(idTeam), FOREIGN KEY (idTeamAway) REFERENCES Team(idTeam), FOREIGN KEY(idSeason) REFERENCES Season);

**PlayDuring**(idPlayer, idSeason), where FOREIGN KEY (idPlayer) REFERENCES NBA\_Player, FOREIGN KEY (idSeason) REFERENCES Season

**TakePlace**(idGame, idSeason), where FOREIGN KEY (idGame) REFERENCES Game, FOREIGN KEY (idSeason) REFERENCES Season

**Season**(idSeason, year)

**GameHasStats**(idGame), where FOREIGN KEY (idGame) REFERENCES Game and Game\_Stats

**Game\_Stats**(idGame, STL\_away, STL\_home, AST\_away, AST\_home, PTS\_away, PTS\_home,FGM\_away, FGM\_home, FTM\_away, FTM\_home, REB\_away, REB\_home);

## **Final Model**

**Player\_Stats** (idPlayer, AllStar\_Appearances, Points, Assists, Rebounds), where FOREIGN KEY(idPlayer) REFERENCES NBA\_Player;

**NBA\_Player**(idPlayer, Position, isActive, namePlayer, idTeam, fromYear, toYear, countryName, idSeason), where FOREIGN (idPlayer) REFERENCES Player\_Stats, FOREIGN KEY (namePlayer) REFERENCES nonNBA\_Player,               FOREIGN KEY (countryName) REFERENCES Country, FOREIGN KEY (idTeam) REFERENCES Team, FOREIGN KEY (idSeason) REFERENCES Season

**Draft\_Player**(idPlayer, numberRoundPick, yearDraft, numberRound);

**nonNBA\_Player**( namePlayer, idPlayer,typeOrganization, nameOrganization), where FOREIGN KEY (idPlayer) REFERENCES NBA\_Player and Drafted\_Player

**Country**(countryName);

**City**(city, state, countryName ,nameArena), where FOREIGN KEY (countryName) REFERENCES Country, FOREIGN KEY (nameArena) REFERENCES Arena

**Area**(nameArena, ArenaCapacity);

**Team**(idTeam, nameTeam, GeneralManager, yearFounded, headCoach, nickname,Owner, Abbreviation,City, nameArena), where FOREIGN KEY (city) REFERENCES City, FOREIGN KEY (nameArena) REFERENCES Arena

**Referee**(idReferee, lastNmae, firstName, jerseyNum, idGame), where FOREIGN KEY (idGame) REFERENCES Game

**FaceIn**(idTeam, idGame) where FOREIGN KEY (idTeam) REFERENCES Team, FOREIGN KEY (idGame) REFERENCES Game

**Game**(idGame, idTeamHome, idTeamAway, idSeason, gameDate, WL\_home,WL\_away, nameArena), where FOREIGN (idTeamHome) REFERENCES Team(idTeam), FOREIGN KEY (idTeamAway) REFERENCES Team(idTeam), FOREIGN KEY (idSeason) REFERENCES Season, FOREIGN KEY (nameArena) REFERENCES Arena, FOREIGN KEY (idGame) REFERENCES Game

**Season**(idSeason, year)

**GameHasStats**(idGame), where FOREIGN KEY (idGame) REFERENCES Game and Game\_Stats

**Game\_Stats**(idGame, STL\_away, STL\_home, AST\_away, AST\_home, PTS\_away, PTS\_home,FGM\_away, FGM\_home, FTM\_away, FTM\_home, REB\_away, REB\_home), where FOREIGN KEY (idGame) REFERENCES Game