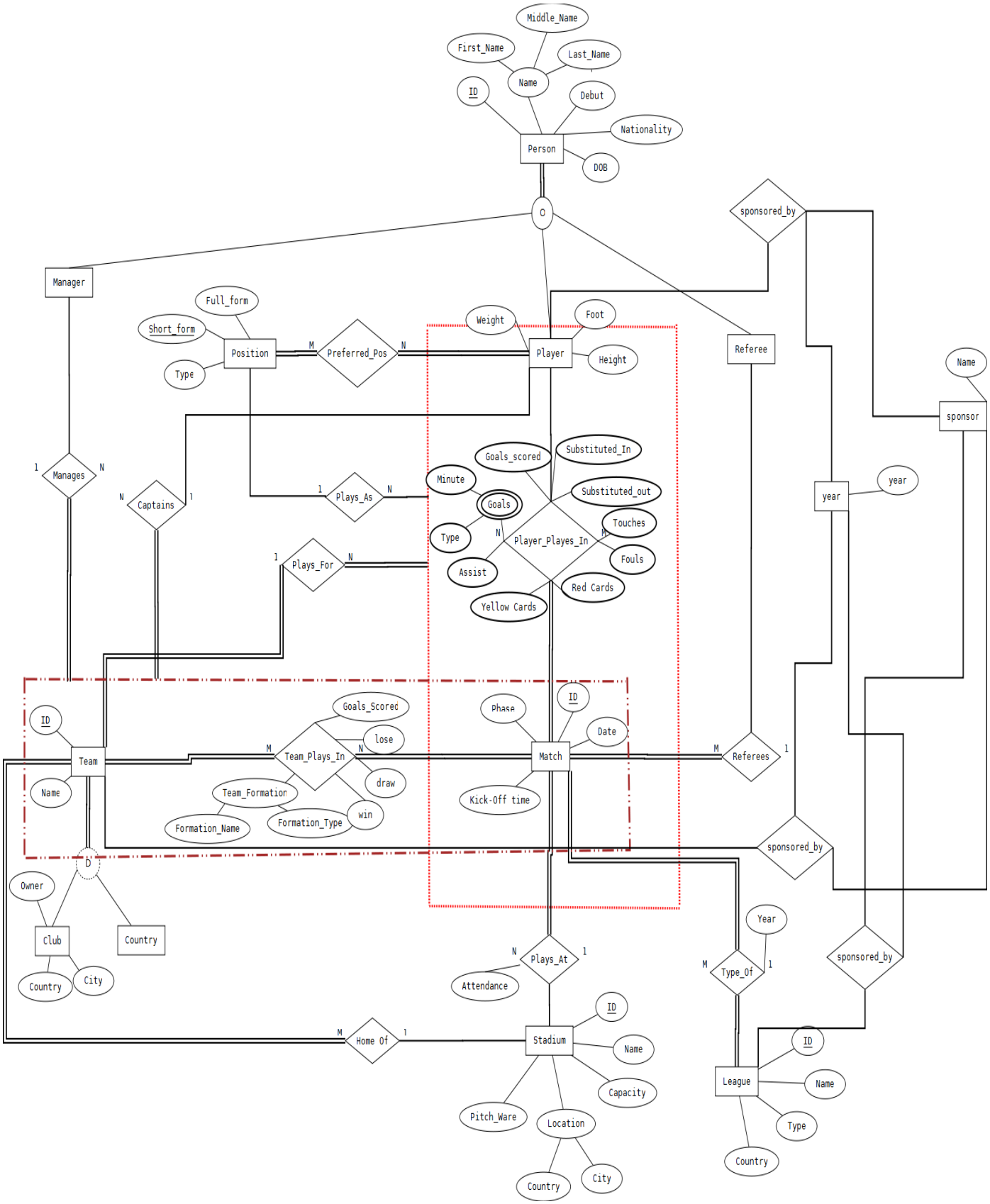
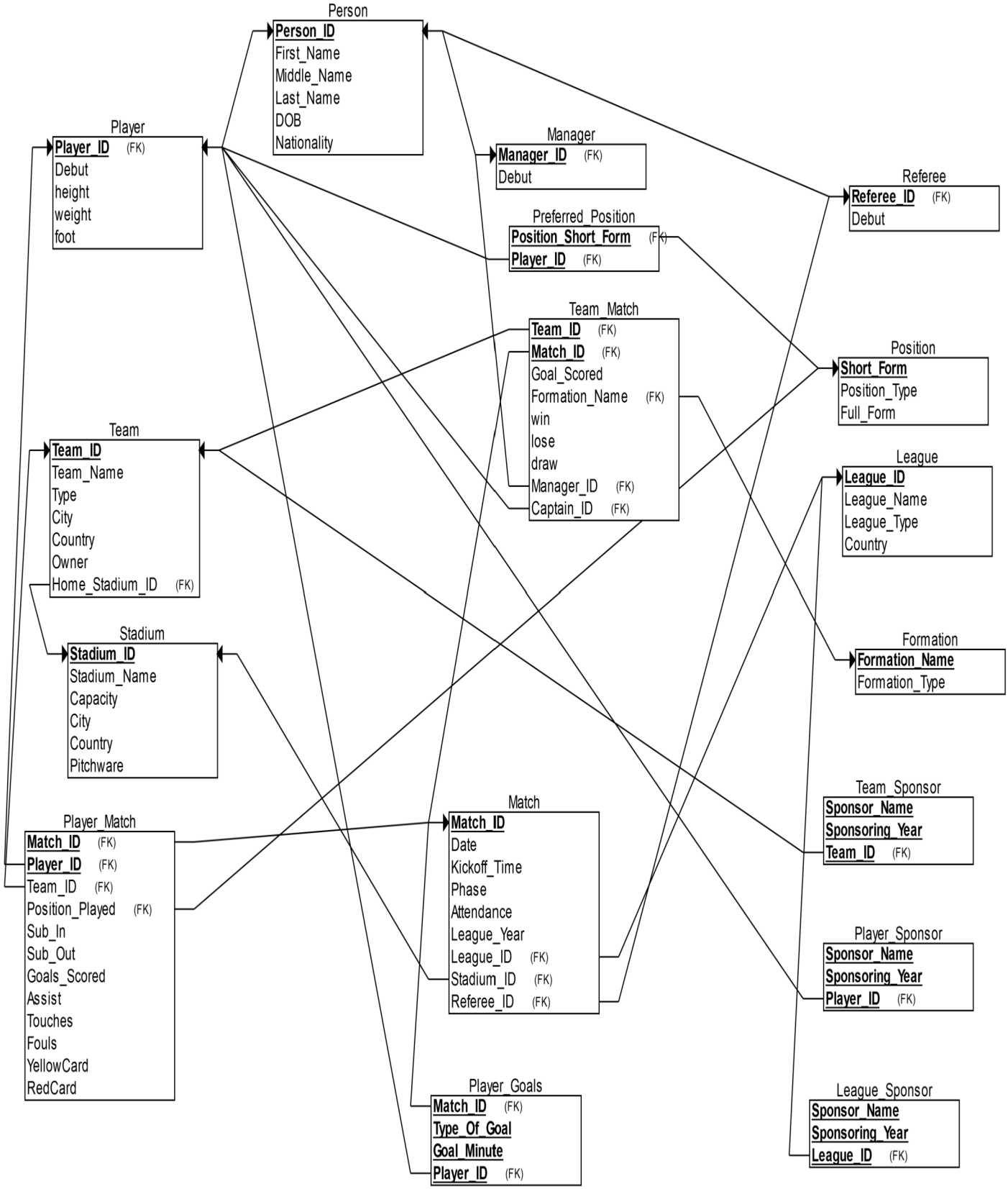
FOOTBALL DATABASE

Entity-Relationship Diagram :



Relational Model :



Functional Dependencies:

Person: **(BCNF)**

Person_id -> First Name, Middle Name, Last Name, Date of birth, Nationality
KEY:-Person_ID

Player: (BCNF)

Player_ID → Debut, Height, Weight, Foot
Key:-Player_ID

Manager:

(BCNF)

Manager_ID → Debut
Key:-Manager_ID

Referee:

(BCNF)

Referee_ID → Debut
Key:-Referee_ID

Team:

(3NF)

Team_ID → Team_Name , Country , owner , Type , Home_Stadium_Id , City
Home_Stadium_Id → City , Country

Key:-Team_ID

If we decompose into BCNF we lose FD Team_ID → City & Team_ID-> Country .
To preserve it we will not decompose it.

Stadium:

(BCNF)

Stadium_ID → Stadium_Name , Capacity , country , city , Pitch_ware

Key:-Stadium_ID

Position:

(BCNF)

Short_Form → Full_Form , Type
Full_Form → Short_Form , Type
Key:-Short_Form
and also Key:-Full_Form

League:

(BCNF)

League_ID → League_Name , League_Type , Country

Key:-League_ID

Preferred Position:

No FD's.
Key:-Player_ID,Position_Short_form

Match:

(BCNF)

Match_ID → Date , Kick-off time, phase , League_Id , Referee_Id , Stadium_Id , League_year , Attendance

Key:-Match_ID

Team (Plays In) Matches:

(BCNF)

Team_Id, Match_Id → Goals_Scored , Captain_Id , Manager_Id , Formation, Win, draw, lose.
Match_Id , Manager_Id → Team_Id .
Captain_Id, Match_Id → Team_Id.
Win,draw,lose are flags for the team's result.

Key:-{Team_ID,Match_ID} & {Match_ID,Manager_ID} &{Captain_ID,Match_ID}

Formations: (BCNF)

Formation → Formation_Type
Key:-Formation

Player (plays in) Matches:

(BCNF)

Player_Id , Match_Id → Team_Id , Sub_In , Sub_out, goals_scored, Assists, Fouls, red_cards , yellow_cards , Touches, Position_played.

Key:-Player_ID,Match_ID

Player Goals:

No FD's.

Key:-Match_ID,Player_ID,Type_Of_Goal,Goal_Minute

player_sponsor:

No FD's.

Key:-Sponsor_Name,Sponsoring_Year,Player_ID

team_sponsor:

No FD's.

Key:-Sponsor_Name,Sponsoring_Year,Team_ID

league_sponsor:

No FD's.

Key:-Sponsor_Name,Sponsoring_Year,League_ID