Transformation to a relation schema

We start by, transforming all our er-diagram data to relation schema, by adding foreign keys to related entities. ISA related entities to "Person" were transformed by usinig the personID as a primary and foreign key. This leaves us with the following schema:

1. **Soccer Competition:** (competitionID, season, name, country, start date, end date)
2. **Match:** (matchID, round, hgoals, vgoals, match_date, match_time, **competitionID, season**, home **teamID**, visting **teamID**, **personID**)
3. **Arena:** (arenaID, name, address, capacity)
4. **Club:** (clubID, name, year, country, **arenaID**)
5. **Team:** (teamID, name, amount of players, **clubID,** coach **personID**)
6. **Person:** (personID, surname, last name, date of birth, nationality)
    a. **Referee:** (**personID**, lineman home, lineman visitor, 4th official, 5th official, var)
    b. **Club president:** (**personID**, year, retired year, **clubID**)
    c. **Coach**: (**personID** , overall matches coach)
    d. **Player:** (**personID** , position, overall goals, overall assists, overall played matches, **teamID**)
7. **Player award:** (awardID, name, year, **personID**)
8. **Goal**: (goalID, time, own goal, **personID**, **matchID**)
9. **Winner:** (winnerID, award, **competitionID**, **season**, **teamID, season**)

We have seen quite some redundancy within our database so we added four new tables to decrease this redundancy:

- Within **Soccer Competition**, the name and country will remain the same every season. So we divided this table into two tables:
    1. **Soccer Competition:** (competitionID, name, country)
    2. **Soccer Competition Season:** (**competitionID**, season, start date, end date)

    Within **Soccer Competition season**: 'competitionID' has now become a foreign key which is related to the name and country.

- Within **Team**, the club where the team is playing for and the name of the team will always remain the same. But other data like, who is coaching the team, and how many players are in the team, can change per season, this led to the following tables:
    1. **Team per season:** (**teamID,** team season**,** amount of players, **clubID,** coach **personID**)
    2. **Team:** (teamID, name, **clubID**)

    Within **Team per season**, we added a new attribute: ´team season´, because we only just realised, that teams can change per season.

- Within both **Winner** and **Player award**, there was both quite a lot of redundancy coming from the "award names. To avoid this we created a new table for all the awards, but because competition awards and player awards are a complete different category we decided to split them up in two tables:
    1. **Player Award:** (<u>awardID</u>, name)
    2. **Player won Award:** (**<u>awardID</u>**, <u>editon</u>, **personID**)
    3. **Competition Winner:** (<u>winnerID</u>, **competitionID, season, teamID, team season**)
    4. **Competition Award:** (**<u>competitionID</u>**, award name)

We also changed the name of Winner to **Competition Winner**, to make it a bit more clear (so it can't be confused with winner of a match) and we changed the attribute within **Competition winner** "year" to "season".

Now we can apply the new tables we created, and adjust some old table values which have changed because of the new tables. This results in the following relation schema:

1. **Soccer Competition:** (<u>competitionID</u>, name, country)
2. **Soccer Competition Season:** (**<u>competitionID</u>**, <u>season</u>, start date, end date)
3. **Match:** (<u>matchID</u>, round, hgoals, vgoals, date and time, **competitionID, season**, home **teamID,** home **team season**, visting **teamID,** visiting **team season, personID**)
4. **Arena:** (<u>arenaID</u>, name, address, capacity)
5. **Club:** (<u>clubID</u>, name, year, country, **arenaID**)
6. **Team per season:** (**<u>teamID</u>,** <u>team season</u>**,** amount of players, **clubID,** coach **personID**)
7. **Team:** (<u>teamID,</u> name, **clubID**)
8. **Person:** (<u>personID</u>, surname, last name, date of birth, nationality)
    a. **Referee:** (**<u>personID</u>**, lineman home, lineman visitor, 4th official, 5th official, var)
    b. **Club president:** (**<u>personID</u>**, year, retired year, **clubID**)
    c. **Coach**: (**<u>personID</u>** , overall matches coach)
    d. **Player:** (**<u>personID</u>**, overall goals, overall assists, overall played matches,
    e. **Player per season:** (<u>personID</u>, <u>player season</u>, position, **teamID, team season**)
9. **Player Award:** (<u>awardID</u>, name)
10. **Player won Award:** (**<u>awardID</u>**, <u>editon</u>, **personID**)
11. **Goal**: (<u>goalID</u>, time, own goal, **personID, player season**, **matchID**)
12. **Competition Winner:** (<u>winnerID</u>, **competitionID, season, teamID, team season**)
13. **Competition Award:** (**<u>competitionID</u>**, award name)