# Exercises: Entity Framework Relations

This document defines the **exercise assignments** for the ["Databases Advanced – Entity Framework" course @ Software University.](https://softuni.bg/trainings/1442/databases-advanced-entity-framework-october-2016)

## \*Football Betting Database

Your task is to create a database for the **Football Bookmaker System**, using the **Entity Framework Code First** approach. Model the following tables:

* **Teams** – Id, Name, Logo, 3 letter Initials (JUV, LIV, ARS…), Primary Kit Color, Secondary Kit Color, Town, Budget
* **Colors** – Id, Name
* **Towns** – Id, Name, Country
* **Countries** – Id (3 letters – for example BUL, USA, GER, FRA, ITA…), Name, Continent
* **Continents** – Id, Name
* **Players** – Id, Name, Squad Number, Team, Position, Is Currently Injured
* **Position** – Id (2 letters – GK, DF, MF, FW…), position description (for example – goal keeper, defender…)
* **PlayerStatistics** – Game, Player, Scored Goals, Player Assists, Played Minutes During Game, (PK = Game + Player)
* **Games** – Id, Home Team, Away Team, Home Goals, Away Goals, Date and Time of Game, Home team Win bet rate, Away Team Win Bet Rate, Draw Game Bet Rate, Round, Competition)
* **Rounds** – Id, Name (for example Groups, League, 1/8 Final, 1/4 Final, Semi-Final, Final…)
* **Competitions** – Id, Name, Type (local, national, international)
* **CompetitionTypes** –Id, Name
* **BetGame** – Game, Bet, Result Prediction (PK = Game + Bet)
* **Bets** – Id, Bet Money, Date and Time of Bet, User
* **ResultPrediction** – Id, Prediction (possible values - Home Team Win, Draw Game, Away Team Win)
* **Users** – Id, Username, Password, Email, Full Name, Balance

Table relationships:

* Team has one primary kit color and one secondary kit color
* Team resident in one town
* Each town can host several teams
* Town can be placed in one country and a country can have many towns
* Country can be placed in several continents and a continent can have many countries
* Player can play for one team and one team can have many players that play for it
* Player can play at one position and one position can be played by many players
* Player can play in many games and in each game, many players take part
* Additionally, for each player for given game is kept statistics such as scored goals, goal assists and minutes played during given game
* A game can be played in one round and in one round many games can be played
* A game can be played in one competition and in one competition many games can be played
* On a game, many bets can be placed and one bet can be on several games
* Each bet for given game must have prediction result
* A bet can be placed by only one user and one user can place many bets

Add **navigational properties** in all models to simplify navigation. Annotate the data models with the appropriate **attributes** and validations and **enable code first migrations**.

Separate the **models**, **data** and **client** into **different layers** (projects).

##### Hint - Database Schema

