

Transfermarkt

Database Systems Project

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Specification

The aim of this project is to design and implement a database of the football transfermarkt. Obviously, the most popular sport in the world is football, and not only because the beauty of the game, but also because the madness of the transfer window. We can get news instantly by the media, but most of them are rumours, so reading them could be a waste of time. Fans and agents both need a collection which stores all relevant data about the completed and confirmed transfers such as the involved clubs, transfer fee, market value and transfer date. Furthermore, this database have to include additional footballing information and statistics. From the database programmer's perspective this field implies many types of data and interesting relations between clubs and players. During the planning phase of the project I will regard the German-based website *transfermarkt* as a distinguished model.

Relational Model

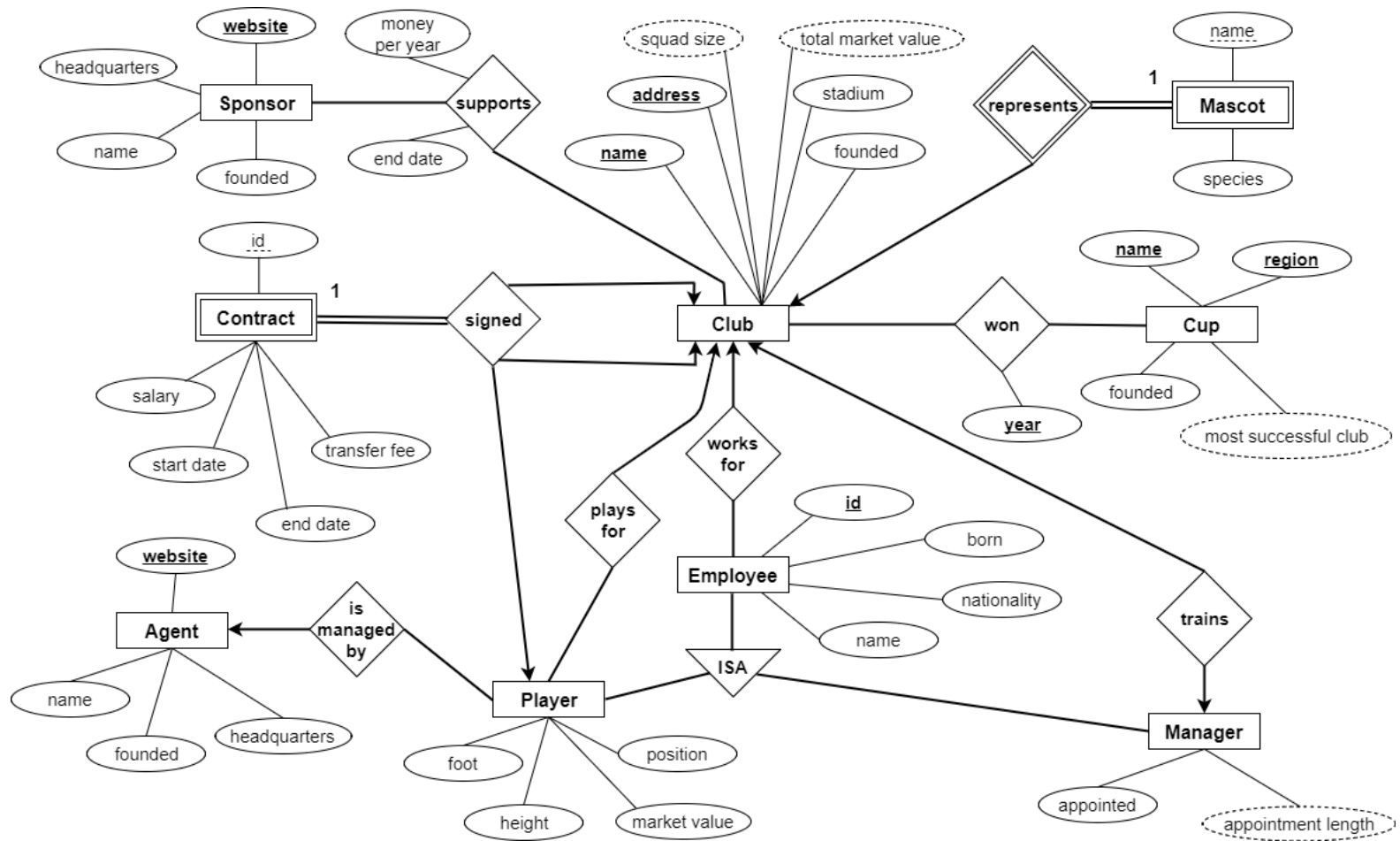
Entities and attributes

- Club (name, address, founded, stadium, Manager.id)
- Employee (id, name, born, nationality, Club.name, Club.address)
- Player (id, name, born, nationality, position, market value, height, foot, Club.name, Club.address, Agent.website)
- Manager (id, name, born, nationality, appointed)
- Agent (website, name, founded, headquarters)
- Contract (Player.id, Club1.name, Club1.address, Club2.name, Club2.address, id, transfer fee, salary, start date, end date)
- Cup (name, region, founded)
- Sponsor (website, name, founded, headquarters)
- Mascot (Club.name, Club.address, name, species)

Many-many relation types

- won (Club.name, Club.address, Cup.name, Cup.region, year)
- supports (Sponsor.website, Club.name, Club.address, money p.a., end date)

E/R diagram



Drop tables

```
DROP TABLE won CASCADE CONSTRAINTS;

DROP TABLE supports CASCADE CONSTRAINTS;

DROP TABLE mascot CASCADE CONSTRAINTS;

DROP TABLE sponsor CASCADE CONSTRAINTS;

DROP TABLE cup CASCADE CONSTRAINTS;

DROP TABLE contract CASCADE CONSTRAINTS;

DROP TABLE player CASCADE CONSTRAINTS;

DROP TABLE employee CASCADE CONSTRAINTS;
```

Create tables

```
CREATE TABLE manager
(
    manager_id          VARCHAR2(100) PRIMARY KEY,
    manager_name        VARCHAR2(100) NOT NULL,
    manager_born        DATE NOT NULL,
    manager_nationality VARCHAR2(100) NOT NULL,
    manager_appointed   DATE NOT NULL
);

CREATE TABLE agent
(
    agent_website       VARCHAR2(100) PRIMARY KEY,
    agent_name          VARCHAR2(100) NOT NULL,
    agent_founded       DATE NOT NULL,
    agent_headquarters  VARCHAR2(100) NOT NULL
);

CREATE TABLE cup
(
    cup_name            VARCHAR2(100) NOT NULL,
    region              VARCHAR2(100) NOT NULL,
    PRIMARY KEY(cup_name, region),
    cup_founded         DATE NOT NULL
);

CREATE TABLE sponsor
(
    sponsor_website     VARCHAR2(100) PRIMARY KEY,
    sponsor_name        VARCHAR2(100) UNIQUE,
    sponsor_founded     DATE NOT NULL,
    sponsor_headquarters VARCHAR2(100) NOT NULL
);
```

```

CREATE TABLE club
(
    club_name      VARCHAR2(100) NOT NULL,
    club_address   VARCHAR2(100) NOT NULL,
    PRIMARY KEY(club_name, club_address),
    club_founded   DATE NOT NULL,
    stadium        VARCHAR2(100) NOT NULL,
    manager_id     VARCHAR2(100) UNIQUE,
    FOREIGN KEY (manager_id) REFERENCES manager(manager_id)
);

CREATE TABLE employee
(
    employee_id     VARCHAR(100) PRIMARY KEY,
    employee_name    VARCHAR2(100) NOT NULL,
    employee_born    DATE NOT NULL,
    employee_nationality VARCHAR2(100) NOT NULL,
    club_name        VARCHAR2(100) NOT NULL,
    club_address     VARCHAR2(100) NOT NULL,
    FOREIGN KEY (club_name, club_address) REFERENCES club(club_name,
        club_address)
);

CREATE TABLE player
(
    player_id        VARCHAR(100) PRIMARY KEY,
    player_name      VARCHAR2(100) NOT NULL,
    player_born      DATE NOT NULL,
    player_nationality VARCHAR2(100) NOT NULL,
    position         VARCHAR2(100) NOT NULL,
    market_value     NUMBER NOT NULL,
    height           NUMBER NOT NULL,
    foot            VARCHAR(5) NOT NULL,
    club_name        VARCHAR2(100) NOT NULL,
    club_address     VARCHAR2(100) NOT NULL,
    agent_website    VARCHAR2(100) NOT NULL,
    FOREIGN KEY (club_name, club_address) REFERENCES club(club_name,
        club_address),
    FOREIGN KEY (agent_website) REFERENCES agent(agent_website)
);

CREATE TABLE mascot
(
    club_name        VARCHAR2(100) NOT NULL,
    club_address     VARCHAR2(100) NOT NULL,
    mascot_name     VARCHAR2(100) NOT NULL,
    PRIMARY KEY(club_name, club_address, mascot_name),
    species          VARCHAR2(100) NOT NULL,
    FOREIGN KEY (club_name, club_address) REFERENCES club(club_name,
        club_address)
);

```

```

CREATE TABLE contract
(
    player_id          VARCHAR(100) NOT NULL,
    moving_to_club_name VARCHAR2(100) NOT NULL,
    moving_to_club_address VARCHAR2(100) NOT NULL,
    moving_from_club_name VARCHAR2(100) NOT NULL,
    moving_from_club_address VARCHAR2(100) NOT NULL,
    contract_id        INTEGER NOT NULL,
    PRIMARY KEY(player_id, moving_to_club_name, moving_to_club_
address,
    moving_from_club_name, moving_from_club_address, contract_i
d),
    transfer_fee        NUMBER NOT NULL,
    salary              NUMBER NOT NULL,
    start_date          DATE NOT NULL,
    end_date            DATE NOT NULL,
    FOREIGN KEY(player_id) REFERENCES player(player_id),
    FOREIGN KEY(moving_to_club_name, moving_to_club_address) REFEREN
CES club(
    club_name, club_address),
    FOREIGN KEY(moving_from_club_name, moving_from_club_address) REF
ERENCES
    club(club_name, club_address)
);

```

```

CREATE TABLE won
(
    club_name          VARCHAR2(100) NOT NULL,
    club_address       VARCHAR2(100) NOT NULL,
    cup_name           VARCHAR2(100) NOT NULL,
    cup_region         VARCHAR2(100) NOT NULL,
    PRIMARY KEY(club_name, club_address, cup_name, cup_region),
    year              DATE NOT NULL,
    FOREIGN KEY(club_name, club_address) REFERENCES club(club_name,
club_address),
    FOREIGN KEY(cup_name, cup_region) REFERENCES cup(cup_name, regio
n)
);

```

```

CREATE TABLE supports
(
    sponsor_website    VARCHAR2(100) NOT NULL,
    club_name          VARCHAR2(100) NOT NULL,
    club_address       VARCHAR2(100) NOT NULL,
    PRIMARY KEY(sponsor_website, club_name, club_address),
    money_per_year     NUMBER NOT NULL,
    end_date           DATE NOT NULL,
    FOREIGN KEY(sponsor_website) REFERENCES sponsor(sponsor_website)
,
    FOREIGN KEY(club_name, club_address) REFERENCES club(club_name,
club_address)
);

```

Insert data

```
INSERT INTO manager
VALUES ('M-1',
       'Jupp Heynckes',
       To_date('1945-05-09', 'YYYY-MM-DD'),
       'Germany',
       To_date('2017-10-09', 'YYYY-MM-DD'));
```

```
INSERT INTO manager
VALUES ('M-2',
       'Peter Bosz',
       To_date('1963-11-21', 'YYYY-MM-DD'),
       'Netherlands',
       To_date('2017-07-01', 'YYYY-MM-DD'));
```

```
INSERT INTO manager
VALUES ('M-3',
       'Ralph Hasenhüttl',
       To_date('1967-08-09', 'YYYY-MM-DD'),
       'Austria',
       To_date('2016-07-01', 'YYYY-MM-DD'));
```

```
INSERT INTO manager
VALUES ('M-4',
       'Martin Schmidt',
       To_date('1967-04-12', 'YYYY-MM-DD'),
       'Switzerland',
       To_date('2017-09-18', 'YYYY-MM-DD'));
```

```
INSERT INTO manager
VALUES ('M-5',
       'Arsène Wenger',
       To_date('1949-10-22', 'YYYY-MM-DD'),
       'France',
       To_date('1996-10-01', 'YYYY-MM-DD'));
```

```
INSERT INTO manager
VALUES ('M-6',
       'Claude Puel',
       To_date('1961-09-02', 'YYYY-MM-DD'),
       'England',
       To_date('2017-10-25', 'YYYY-MM-DD'));
```

```
INSERT INTO manager
VALUES ('M-7',
       'Massimiliano Allegri',
       To_date('1967-08-11', 'YYYY-MM-DD'),
       'Italy',
       To_date('2014-07-16', 'YYYY-MM-DD'));
```

```
INSERT INTO manager
VALUES ('M-8',
       'Eusebio Di Francesco',
       To_date('1969-09-08', 'YYYY-MM-DD'),
       'Italy',
       To_date('2017-06-13', 'YYYY-MM-DD'));
```

```
INSERT INTO manager
VALUES ('M-9',
       'Diego Simeone',
       To_date('1970-04-28', 'YYYY-MM-DD'),
       'Argentina',
       To_date('2011-12-23', 'YYYY-MM-DD'));
```

```
INSERT INTO club
VALUES ('Bayern München',
       'Säbener Straße 51-57 81547 München Germany',
       To_date('1900-02-27', 'YYYY-MM-DD'),
       'Allianz Arena',
       'M-1');
```

```
INSERT INTO club
VALUES ('Borussia Dortmund',
       'Rheinlanddamm 207-209 44137 Dortmund Germany',
       To_date('1909-12-19', 'YYYY-MM-DD'),
       'Signal Iduna Park',
       'M-2');
```

```
INSERT INTO club
VALUES ('RB Leipzig',
       'Neumarkt 29-33 04109 Leipzig Germany',
       To_date('2009-05-19', 'YYYY-MM-DD'),
       'Red Bull Arena',
       'M-3');
```

```
INSERT INTO club
VALUES ('VfL Wolfsburg',
       'In den Allerwiesen 1 38446 Wolfsburg Germany',
       To_date('1945-09-12', 'YYYY-MM-DD'),
       'Volkswagen Arena',
       'M-4');
```

```
INSERT INTO club
VALUES ('Arsenal FC',
       'Highbury House, 75 Drayton Park N5 1BU London England',

       To_date('1886-12-01', 'YYYY-MM-DD'),
       'Emirates Stadium',
       'M-5');
```

```
INSERT INTO club
VALUES ('Leicester City',
       'Filbert Way LE2 7FL Leicester England',
       To_date('1884-01-01', 'YYYY-MM-DD'),
       'King Power Stadium', 'M-6');
```

```

INSERT INTO club
VALUES      ('Juventus FC',
            'Corso Galileo Ferraris 32 10128 Torino Italy',
            To_date('1897-11-01', 'YYYY-MM-DD'),
            'Allianz Stadium',
            'M-7');

INSERT INTO club
VALUES      ('AS Roma',
            'Via di Trigoria Km 3600 00128 Roma Italy',
            To_date('1927-06-07', 'YYYY-MM-DD'),
            'Olimpico di Roma',
            'M-8');

INSERT INTO club
VALUES      ('Atlético Madrid',
            'Paseo Virgen del Puerto 67 28005 Madrid Spain',
            To_date('1903-04-26', 'YYYY-MM-DD'),
            'Estadio Metropolitano de Madrid',
            'M-9');

INSERT INTO mascot
VALUES      ('Bayern München',
            'Säbener Straße 51-57 81547 München Germany',
            'Berni',
            'Bear');

INSERT INTO mascot
VALUES      ('Borussia Dortmund',
            'Rheinlanddamm 207-209 44137 Dortmund Germany',
            'Emma',
            'Bee');

INSERT INTO mascot
VALUES      ('RB Leipzig',
            'Neumarkt 29-33 04109 Leipzig Germany',
            'Bulli',
            'Bull');

INSERT INTO mascot
VALUES      ('VfL Wolfsburg',
            'In den Allerwiesen 1 38446 Wolfsburg Germany',
            'Wölfi',
            'Wolf');

INSERT INTO mascot
VALUES      ('Arsenal FC',
            'Highbury House, 75 Drayton Park N5 1BU London England',
            'Gunnersaurus Rex',
            'Dinosaur');

```

```

INSERT INTO mascot
VALUES ('Leicester City',
       'Filbert Way LE2 7FL Leicester England',
       'Filbert',
       'Fox');

INSERT INTO mascot
VALUES ('Juventus FC',
       'Corso Galileo Ferraris 32 10128 Torino Italy',
       'J',
       'Zebra');

INSERT INTO mascot
VALUES ('AS Roma',
       'Via di Trigoria Km 3600 00128 Roma Italy',
       'Romolo',
       'Wolf');

INSERT INTO mascot
VALUES ('Atlético Madrid',
       'Paseo Virgen del Puerto 67 28005 Madrid Spain',
       'Indi',
       'Racoon');

INSERT INTO employee
VALUES ('E-1',
       'Peter Hermann',
       To_date('1952-03-22', 'YYYY-MM-DD'),
       'Germany',
       'Bayern München',
       'Säbener Straße 51-57 81547 München Germany');

INSERT INTO employee
VALUES ('E-2',
       'Hermann Gerland',
       To_date('1954-06-04', 'YYYY-MM-DD'),
       'Germany',
       'Bayern München',
       'Säbener Straße 51-57 81547 München Germany');

INSERT INTO employee
VALUES ('E-3',
       'Hendrie Krüzen',
       To_date('1964-11-24', 'YYYY-MM-DD'),
       'Netherlands',
       'Borussia Dortmund',
       'Rheinlanddamm 207-209 44137 Dortmund Germany');

INSERT INTO employee
VALUES ('E-4',
       'Albert Capellas Herms',
       To_date('1967-10-01', 'YYYY-MM-DD'),
       'Spain',
       'Borussia Dortmund',
       'Rheinlanddamm 207-209 44137 Dortmund Germany');

```

```
INSERT INTO employee
VALUES ('E-5',
       'Zsolt Löw',
       To_date('1979-04-29', 'YYYY-MM-DD'),
       'Hungary',
       'RB Leipzig',
       'Neumarkt 29-33 04109 Leipzig Germany');
```

```
INSERT INTO employee
VALUES ('E-6',
       'Danny Röhl',
       To_date('1989-04-28', 'YYYY-MM-DD'),
       'Germany',
       'RB Leipzig',
       'Neumarkt 29-33 04109 Leipzig Germany');
```

```
INSERT INTO employee
VALUES ('E-7',
       'Stefan Sartori',
       To_date('1974-07-27', 'YYYY-MM-DD'),
       'Germany',
       'VfL Wolfsburg',
       'In den Allerwiesen 1 38446 Wolfsburg Germany');
```

```
INSERT INTO employee
VALUES ('E-8',
       'Jens Lehmann',
       To_date('1969-11-10', 'YYYY-MM-DD'),
       'Germany',
       'Arsenal FC',
       'Highbury House, 75 Drayton Park N5 1BU London England')
;
```

```
INSERT INTO employee
VALUES ('E-9',
       'Paolo Benetti',
       To_date('1965-04-28', 'YYYY-MM-DD'),
       'Italy',
       'Leicester City',
       'Filbert Way LE2 7FL Leicester England');
```

```
INSERT INTO employee
VALUES ('E-10',
       'Marco Landucci',
       To_date('1964-03-25', 'YYYY-MM-DD'),
       'Italy',
       'Juventus FC',
       'Corso Galileo Ferraris 32 10128 Torino Italy');
```

```
INSERT INTO employee
VALUES ('E-11',
       'Francesco Tomei',
       To_date('1973-06-29', 'YYYY-MM-DD'),
       'Italy',
       'AS Roma',
       'Via di Trigoria Km 3600 00128 Roma Italy');
```

```
INSERT INTO employee
VALUES ('E-12',
       'Germán Burgos',
       To_date('1969-04-16', 'YYYY-MM-DD'),
       'Argentina',
       'Atlético Madrid',
       'Paseo Virgen del Puerto 67 28005 Madrid Spain');
```

```
INSERT INTO agent
VALUES ('koegl-partner.com',
       'Kögl-Partner GmbH',
       To_date('2001', 'YYYY'),
       'Rothenburg, Germany');
```

```
INSERT INTO agent
VALUES ('fair-sport.de',
       'fair-sport GmbH',
       To_date('2004', 'YYYY'),
       'Aspach, Germany');
```

```
INSERT INTO agent
VALUES ('proprofil.de',
       'PRO Profil GmbH',
       To_date('1998', 'YYYY'),
       'Dortmund, Germany');
```

```
INSERT INTO agent
VALUES ('sportstotal.com',
       'SportsTotal',
       To_date('2010', 'YYYY'),
       'Köln, Germany');
```

```
INSERT INTO agent
VALUES ('hcm-sport.se',
       'HCM Sport Agency',
       To_date('2009', 'YYYY'),
       'Stockholm, Sweden');
```

```
INSERT INTO agent
VALUES ('bahiainternacional.es',
       'Bahía Internacional',
       To_date('1997', 'YYYY'),
       'Madrid, Spain');
```

```
INSERT INTO agent
VALUES ('gestifute.com', 'GestiFute',
       To_date('1996', 'YYYY'), 'Porto, Portugal');
```

```
INSERT INTO agent
VALUES ('twitter.com/ffelicevich',
       'Fernando Felicevich',
       To_date('1999', 'YYYY'),
       'Santiago de Chile, Chile');
```

```
INSERT INTO player
VALUES ('P-1',
       'Thomas Müller',
       To_date('1989-09-13', 'YYYY-MM-DD'),
       'Germany',
       'Centre-Forward',
       50000000,
       186,
       'right',
       'Bayern München',
       'Säbener Straße 51-57 81547 München Germany',
       'koegl-partner.com');
```

```
INSERT INTO player
VALUES ('P-2',
       'Joshua Kimmich',
       To_date('1995-02-08', 'YYYY-MM-DD'),
       'Germany',
       'Right-Back',
       25000000,
       176,
       'right',
       'Bayern München',
       'Säbener Straße 51-57 81547 München Germany',
       'fair-sport.de');
```

```
INSERT INTO player
VALUES ('P-3',
       'Arturo Vidal',
       To_date('1987-05-22', 'YYYY-MM-DD'),
       'Chile',
       'Centre-Midfield',
       35000000,
       180,
       'right',
       'Bayern München',
       'Säbener Straße 51-57 81547 München Germany',
       'twitter.com/ffelicevich');
```

```
INSERT INTO player
VALUES ('P-4',
       'Javi Martínez',
       To_date('1988-09-02', 'YYYY-MM-DD'),
       'Spain', 'Centre-Back', 30000000,
       190, 'right', 'Bayern München',
       'Säbener Straße 51-57 81547 München Germany',
       'bahiainternacional.es');
```

```

INSERT INTO player
VALUES ('P-5',
       'James Rodríguez',
       To_date('1991-07-12', 'YYYY-MM-DD'),
       'Columbia',
       'Attacking-Midfield',
       50000000,
       180,
       'left',
       'Bayern München',
       'Säbener Straße 51-57 81547 München Germany',
       'gestifute.com');

INSERT INTO player
VALUES ('P-6',
       'Sebastian Rode',
       To_date('1990-08-11', 'YYYY-MM-DD'),
       'Germany',
       'Centre-Midfield',
       4500000,
       179,
       'right',
       'Borussia Dortmund',
       'Rheinlanddamm 207-209 44137 Dortmund Germany',
       'propofil.de');

INSERT INTO player
VALUES ('P-7',
       'Pierre-Emerick Aubameyang',
       To_date('1989-06-18', 'YYYY-MM-DD'),
       'Gabon',
       'Centre-Forward',
       65000000,
       187,
       'right',
       'Borussia Dortmund',
       'Rheinlanddamm 207-209 44137 Dortmund Germany',
       'gestifute.com');

INSERT INTO player
VALUES ('P-8',
       'Mario Götze',
       To_date('1992-06-03', 'YYYY-MM-DD'),
       'Germany',
       'Attacking-Midfield',
       20000000,
       176,
       'right',
       'Borussia Dortmund',
       'Rheinlanddamm 207-209 44137 Dortmund Germany',
       'koegl-partner.com');

```

```

INSERT INTO player
VALUES ('P-9',
       'Shinji Kagawa',
       To_date('1989-03-17', 'YYYY-MM-DD'),
       'Japan',
       'Attacking-Midfield',
       13000000,
       175,
       'right',
       'Borussia Dortmund',
       'Rheinlanddamm 207-209 44137 Dortmund Germany',
       'proprofil.de');

```

```

INSERT INTO player
VALUES ('P-10',
       'Marco Reus',
       To_date('1989-05-31', 'YYYY-MM-DD'),
       'Germany',
       'Left-Forward',
       35000000,
       180,
       'right',
       'Borussia Dortmund',
       'Rheinlanddamm 207-209 44137 Dortmund Germany',
       'sportstotal.com');

```

```

INSERT INTO player
VALUES ('P-11',
       'Reinhold Yabo',
       To_date('1992-02-10', 'YYYY-MM-DD'),
       'Germany',
       'Centre-Midfield',
       1000000,
       177,
       'both',
       'RB Leipzig',
       'Neumarkt 29-33 04109 Leipzig Germany',
       'sportstotal.com');

```

```

INSERT INTO player
VALUES ('P-12',
       'Benno Schmitz',
       To_date('1994-11-17', 'YYYY-MM-DD'),
       'Germany',
       'Right-Back',
       1750000,
       182,
       'right',
       'RB Leipzig',
       'Neumarkt 29-33 04109 Leipzig Germany',
       'koegl-partner.com');

```

```

INSERT INTO player
VALUES ('P-13',
       'Bernd Leno',
       To_date('1992-03-04', 'YYYY-MM-DD'),
       'Germany',
       'Keeper',
       16000000,
       190,
       'right',
       'RB Leipzig',
       'Neumarkt 29-33 04109 Leipzig Germany',
       'fair-sport.de');

```

```

INSERT INTO player
VALUES ('P-14',
       'Charles Aránguiz',
       To_date('1989-04-17', 'YYYY-MM-DD'),
       'Chile',
       'Centre-Midfield',
       8000000,
       171,
       'right',
       'RB Leipzig',
       'Neumarkt 29-33 04109 Leipzig Germany',
       'twitter.com/ffelicevich');

```

```

INSERT INTO player
VALUES ('P-15',
       'Emil Forsberg',
       To_date('1991-10-23', 'YYYY-MM-DD'),
       'Sweden',
       'Left-Midfield',
       22000000,
       179,
       'right',
       'RB Leipzig',
       'Neumarkt 29-33 04109 Leipzig Germany',
       'hcm-sport.se');

```

```

INSERT INTO player
VALUES ('P-16',
       'Ignacio Camacho',
       To_date('1990-05-04', 'YYYY-MM-DD'),
       'Spain',
       'Defensive-Midfield',
       12500000,
       182,
       'right',
       'VfL Wolfsburg',
       'In den Allerwiesen 1 38446 Wolfsburg Germany',
       'bahiainternacional.es');

```

```

INSERT INTO player
VALUES ('P-17',
      'Robin Knoche',
      To_date('1992-05-22', 'YYYY-MM-DD'),
      'Germany',
      'Centre-Back',
      4500000,
      190,
      'both',
      'VfL Wolfsburg',
      'In den Allerwiesen 1 38446 Wolfsburg Germany',
      'sportstotal.com');

```

```

INSERT INTO player
VALUES ('P-18',
      'Mario Gómez',
      To_date('1985-07-10', 'YYYY-MM-DD'),
      'Germany',
      'Centre-Forward',
      7500000,
      189,
      'right',
      'VfL Wolfsburg',
      'In den Allerwiesen 1 38446 Wolfsburg Germany',
      'fair-sport.de');

```

```

INSERT INTO player
VALUES ('P-19',
      'Divock Origi',
      To_date('1995-04-18', 'YYYY-MM-DD'),
      'Belgium',
      'Centre-Forward',
      12000000,
      185,
      'both',
      'VfL Wolfsburg',
      'In den Allerwiesen 1 38446 Wolfsburg Germany',
      'hcm-sport.se');

```

```

INSERT INTO player
VALUES ('P-20',
      'Maximilian Arnold',
      To_date('1994-05-27', 'YYYY-MM-DD'),
      'Germany',
      'Centre-Midfield',
      10000000,
      184,
      'left',
      'VfL Wolfsburg',
      'In den Allerwiesen 1 38446 Wolfsburg Germany',
      'koegl-partner.com');

```

```

INSERT INTO player
VALUES ('P-21',
       'Nacho Monreal',
       To_date('1986-02-26', 'YYYY-MM-DD'),
       'Spain',
       'Left-Back',
       13000000,
       179,
       'left',
       'Arsenal FC',
       'Highbury House, 75 Drayton Park N5 1BU London England',

       'bahiainternacional.es');

```

```

INSERT INTO player
VALUES ('P-22',
       'Alexis Sánchez',
       To_date('1988-12-19', 'YYYY-MM-DD'),
       'Chile',
       'Left-Forward',
       65000000,
       169,
       'right',
       'Arsenal FC',
       'Highbury House, 75 Drayton Park N5 1BU London England',

       'twitter.com/ffelicevich');

```

```

INSERT INTO player
VALUES ('P-23',
       'Mesut Özil',
       To_date('1988-10-15', 'YYYY-MM-DD'),
       'Germany',
       'Attacking-Midfield',
       50000000,
       180,
       'left',
       'Arsenal FC',
       'Highbury House, 75 Drayton Park N5 1BU London England',

       'fair-sport.de');

```

```

INSERT INTO player
VALUES ('P-24',
       'Shkodran Mustafi',
       To_date('1992-04-17', 'YYYY-MM-DD'),
       'Germany', 'Centre-Back', 30000000, 184, 'right',
       'Arsenal FC',
       'Highbury House, 75 Drayton Park N5 1BU London England',

       'fair-sport.de');

```

```
INSERT INTO player
VALUES ('P-25',
       'David Ospina',
       To_date('1988-08-31', 'YYYY-MM-DD'),
       'Columbia',
       'Keeper',
       7000000,
       183,
       'right',
       'Arsenal FC',
       'Highbury House, 75 Drayton Park N5 1BU London England',

       'twitter.com/ffelicevich');
```

```
INSERT INTO player
VALUES ('P-26',
       'Aleksandar Dragovic',
       To_date('1991-03-06', 'YYYY-MM-DD'),
       'Austria',
       'Centre-Back',
       12000000,
       184,
       'both',
       'Leicester City',
       'Filbert Way LE2 7FL Leicester England',
       'proprofil.de');
```

```
INSERT INTO player
VALUES ('P-27',
       'Shinji Okazaki',
       To_date('1986-04-16', 'YYYY-MM-DD'),
       'Japan',
       'Centre-Forward',
       7000000,
       174,
       'both',
       'Leicester City',
       'Filbert Way LE2 7FL Leicester England',
       'proprofil.de');
```

```
INSERT INTO player
VALUES ('P-28',
       'Renato Sanches',
       To_date('1997-08-18', 'YYYY-MM-DD'),
       'Portugal',
       'Centre-Midfield',
       22000000,
       176,
       'right',
       'Leicester City',
       'Filbert Way LE2 7FL Leicester England',
       'gestifute.com');
```

```

INSERT INTO player
VALUES ('P-29',
       'Daniel Amartey',
       To_date('1994-12-21', 'YYYY-MM-DD'),
       'Ghana',
       'Defensive-Midfield',
       5000000,
       186,
       'right',
       'Leicester City',
       'Filbert Way LE2 7FL Leicester England',
       'hcm-sport.se');

```

```

INSERT INTO player
VALUES ('P-30',
       'Martin Olsson',
       To_date('1988-05-17', 'YYYY-MM-DD'),
       'Sweden',
       'Left-Back',
       5000000,
       178,
       'left',
       'Leicester City',
       'Filbert Way LE2 7FL Leicester England',
       'hcm-sport.se');

```

```

INSERT INTO player
VALUES ('P-31',
       'Benedict Höwedes',
       To_date('1988-02-29', 'YYYY-MM-DD'),
       'Germany',
       'Centre-Back',
       18000000,
       187,
       'right',
       'Juventus FC',
       'Corso Galileo Ferraris 32 10128 Torino Italy',
       'sportstotal.com');

```

```

INSERT INTO player
VALUES ('P-32',
       'André Silva',
       To_date('1995-11-06', 'YYYY-MM-DD'),
       'Portugal',
       'Centre-Forward',
       25000000,
       184,
       'right',
       'Juventus FC',
       'Corso Galileo Ferraris 32 10128 Torino Italy',
       'gestifute.com');

```

```

INSERT INTO player
VALUES ('P-33',
      'Douglas Costa',
      To_date('1990-09-14', 'YYYY-MM-DD'),
      'Brazil',
      'Left-Forward',
      30000000,
      172,
      'left',
      'Juventus FC',
      'Corso Galileo Ferraris 32 10128 Torino Italy',
      'gestifute.com');

```

```

INSERT INTO player
VALUES ('P-34',
      'Sami Khedira',
      To_date('1987-04-04', 'YYYY-MM-DD'),
      'Germany',
      'Centre-Midfield',
      28000000,
      189,
      'right',
      'Juventus FC',
      'Corso Galileo Ferraris 32 10128 Torino Italy',
      'sportstotal.com');

```

```

INSERT INTO player
VALUES ('P-35',
      'Mario Mandzukic',
      To_date('1986-05-21', 'YYYY-MM-DD'),
      'Croatia',
      'Centre-Forward',
      20000000,
      190,
      'right',
      'Juventus FC',
      'Corso Galileo Ferraris 32 10128 Torino Italy',
      'hcm-sport.se');

```

```

INSERT INTO player
VALUES ('P-36',
      'Radja Nainggolan',
      To_date('1988-05-04', 'YYYY-MM-DD'),
      'Belgium',
      'Centre-Midfield',
      40000000,
      175,
      'right',
      'AS Roma',
      'Via di Trigoria Km 3600 00128 Roma Italy',
      'hcm-sport.se');

```

```

INSERT INTO player
VALUES ('P-37',
       'Héctor Moreno',
       To_date('1988-01-17', 'YYYY-MM-DD'),
       'Mexico',
       'Centre-Back',
       6000000,
       184,
       'left',
       'AS Roma',
       'Via di Trigoria Km 3600 00128 Roma Italy',
       'bahiainternacional.es');

```

```

INSERT INTO player
VALUES ('P-38',
       'Diego Perotti',
       To_date('1988-07-26', 'YYYY-MM-DD'),
       'Argentina',
       'Left-Forward',
       17000000,
       179,
       'right',
       'AS Roma',
       'Via di Trigoria Km 3600 00128 Roma Italy',
       'bahiainternacional.es');

```

```

INSERT INTO player
VALUES ('P-39',
       'Leandro Castán',
       To_date('1986-11-05', 'YYYY-MM-DD'),
       'Brazil',
       'Centre-Back',
       5500000,
       186,
       'left',
       'AS Roma',
       'Via di Trigoria Km 3600 00128 Roma Italy',
       'bahiainternacional.es');

```

```

INSERT INTO player
VALUES ('P-40',
       'Edin Dzeko',
       To_date('1986-03-17', 'YYYY-MM-DD'),
       'Bosnia-Herzegovina',
       'Centre-Forward',
       22000000,
       192,
       'right',
       'AS Roma',
       'Via di Trigoria Km 3600 00128 Roma Italy',
       'gestifute.com');

```

```
INSERT INTO player
VALUES ('P-41',
       'Toni Kroos',
       To_date('1990-01-04', 'YYYY-MM-DD'),
       'Germany',
       'Centre-Midfield',
       70000000,
       183,
       'right',
       'Atlético Madrid',
       'Paseo Virgen del Puerto 67 28005 Madrid Spain',
       'sportstotal.com');
```

```
INSERT INTO player
VALUES ('P-42',
       'Antoine Griezmann',
       To_date('1991-03-21', 'YYYY-MM-DD'),
       'France',
       'Centre-Forward',
       80000000,
       175,
       'left',
       'Atlético Madrid',
       'Paseo Virgen del Puerto 67 28005 Madrid Spain',
       'gestifute.com');
```

```
INSERT INTO player
VALUES ('P-43',
       'Diego Godín',
       To_date('1986-02-16', 'YYYY-MM-DD'),
       'Uruguay',
       'Centre-Back',
       38000000,
       187,
       'right',
       'Atlético Madrid',
       'Paseo Virgen del Puerto 67 28005 Madrid Spain',
       'twitter.com/ffelicevich');
```

```
INSERT INTO player
VALUES ('P-44',
       'Fernando Torres',
       To_date('1984-03-20', 'YYYY-MM-DD'),
       'Spain',
       'Centre-Forward',
       4000000,
       186,
       'right',
       'Atlético Madrid',
       'Paseo Virgen del Puerto 67 28005 Madrid Spain',
       'bahiainternacional.es');
```

```

INSERT INTO player
VALUES
    ('P-45',
     'Falcao',
     To_date('1986-02-10', 'YYYY-MM-DD'),
     'Columbia',
     'Centre-Forward',
     15000000,
     177,
     'right',
     'Atlético Madrid',
     'Paseo Virgen del Puerto 67 28005 Madrid Spain',
     'gestifute.com');

```

```

INSERT INTO contract
VALUES
    ('P-2',
     'Bayern München',
     'Säbener Straße 51-57 81547 München Germany',
     'RB Leipzig',
     'Neumarkt 29-33 04109 Leipzig Germany',
     1,
     7650000,
     3500000,
     To_date('2015-07-02', 'YYYY-MM-DD'),
     To_date('2020-06-30', 'YYYY-MM-DD'));

```

```

INSERT INTO contract
VALUES
    ('P-3',
     'Bayern München',
     'Säbener Straße 51-57 81547 München Germany',
     'Juventus FC',
     'Corso Galileo Ferraris 32 10128 Torino Italy',
     2,
     33300000,
     7500000,
     To_date('2015-07-28', 'YYYY-MM-DD'),
     To_date('2019-06-30', 'YYYY-MM-DD'));

```

```

INSERT INTO contract
VALUES
    ('P-5',
     'Bayern München',
     'Säbener Straße 51-57 81547 München Germany',
     'Atlético Madrid',
     'Paseo Virgen del Puerto 67 28005 Madrid Spain',
     3,
     40000000,
     10500000,
     To_date('2017-07-12', 'YYYY-MM-DD'),
     To_date('2019-06-30', 'YYYY-MM-DD'));

```

```

INSERT INTO contract
VALUES ('P-6',
       'Borussia Dortmund',
       'Rheinlanddamm 207-209 44137 Dortmund Germany',
       'Bayern München',
       'Säbener Straße 51-57 81547 München Germany',
       4,
       1080000,
       2500000,
       To_date('2016-07-01', 'YYYY-MM-DD'),
       To_date('2020-06-30', 'YYYY-MM-DD'));

```

```

INSERT INTO contract
VALUES ('P-8',
       'Borussia Dortmund',
       'Rheinlanddamm 207-209 44137 Dortmund Germany',
       'Bayern München',
       'Säbener Straße 51-57 81547 München Germany',
       5,
       19800000,
       5500000,
       To_date('2016-07-21', 'YYYY-MM-DD'),
       To_date('2020-06-30', 'YYYY-MM-DD'));

```

```

INSERT INTO contract
VALUES ('P-19',
       'VfL Wolfsburg',
       'In den Allerwiesen 1 38446 Wolfsburg Germany',
       'Arsenal FC',
       'Highbury House, 75 Drayton Park N5 1BU London England',
       6,
       6500000,
       3000000,
       To_date('2017-08-31', 'YYYY-MM-DD'),
       To_date('2018-06-30', 'YYYY-MM-DD'));

```

```

INSERT INTO contract
VALUES ('P-23',
       'Arsenal FC',
       'Highbury House, 75 Drayton Park N5 1BU London England',
       'Atlético Madrid',
       'Paseo Virgen del Puerto 67 28005 Madrid Spain',
       7,
       42300000,
       15000000,
       To_date('2013-09-02', 'YYYY-MM-DD'),
       To_date('2018-06-30', 'YYYY-MM-DD'));

```

```

INSERT INTO contract
VALUES ('P-24',
       'Arsenal FC',
       'Highbury House, 75 Drayton Park N5 1BU London England',
       'VfL Wolfsburg',
       'In den Allerwiesen 1 38446 Wolfsburg Germany',
       8,
       36900000,
       8500000,
       To_date('2016-08-30', 'YYYY-MM-DD'),
       To_date('2021-06-30', 'YYYY-MM-DD'));

```

```

INSERT INTO contract
VALUES ('P-28',
       'Leicester City',
       'Filbert Way LE2 7FL Leicester England',
       'Bayern München',
       'Säbener Straße 51-57 81547 München Germany',
       9,
       15200000,
       4500000,
       To_date('2017-08-31', 'YYYY-MM-DD'),
       To_date('2020-06-30', 'YYYY-MM-DD'));

```

```

INSERT INTO contract
VALUES ('P-33',
       'Juventus FC',
       'Corso Galileo Ferraris 32 10128 Torino Italy',
       'Bayern München',
       'Säbener Straße 51-57 81547 München Germany',
       10,
       40000000,
       6500000,
       To_date('2017-07-12', 'YYYY-MM-DD'),
       To_date('2021-06-30', 'YYYY-MM-DD'));

```

```

INSERT INTO contract
VALUES ('P-35',
       'Juventus FC',
       'Corso Galileo Ferraris 32 10128 Torino Italy',
       'Atlético Madrid',
       'Paseo Virgen del Puerto 67 28005 Madrid Spain',
       11,
       18900000,
       5000000,
       To_date('2015-07-01', 'YYYY-MM-DD'),
       To_date('2020-06-30', 'YYYY-MM-DD'));

```

```

INSERT INTO contract
VALUES ('P-40',
       'AS Roma',
       'Via di Trigatoria Km 3600 00128 Roma Italy',
       'Leicester City',
       'Filbert Way LE2 7FL Leicester England',
       12,
       9900000,
       4000000,
       To_date('2016-07-01', 'YYYY-MM-DD'),
       To_date('2020-06-30', 'YYYY-MM-DD'));

INSERT INTO contract
VALUES ('P-41',
       'Atlético Madrid',
       'Paseo Virgen del Puerto 67 28005 Madrid Spain',
       'Bayern München',
       'Säbener Straße 51-57 81547 München Germany',
       13,
       25000000,
       12000000,
       To_date('2014-07-17', 'YYYY-MM-DD'),
       To_date('2022-06-30', 'YYYY-MM-DD'));

INSERT INTO cup
VALUES ('UEFA Champions League',
       'Europe',
       To_date('1992', 'YYYY'));

INSERT INTO cup
VALUES ('UEFA Europa League',
       'Europe',
       To_date('2009', 'YYYY'));

INSERT INTO cup
VALUES ('UEFA Super Cup',
       'Europe',
       To_date('1973', 'YYYY'));

INSERT INTO cup
VALUES ('FIFA Club World Cup',
       'International',
       To_date('2005', 'YYYY'));

INSERT INTO cup
VALUES ('Bundesliga',
       'Germany',
       To_date('1963', 'YYYY'));

INSERT INTO cup
VALUES ('DFB-Pokal',
       'Germany',
       To_date('1935', 'YYYY'));

```

```

INSERT INTO cup
VALUES      ('Premier League',
            'England',
            To_date('1992-02-20', 'YYYY-MM-DD'));

INSERT INTO cup
VALUES      ('FA Cup',
            'England',
            To_date('1871', 'YYYY'));

INSERT INTO cup
VALUES      ('La Liga',
            'Spain',
            To_date('1929', 'YYYY'));

INSERT INTO cup
VALUES      ('Copa del Rey',
            'Spain',
            To_date('1903', 'YYYY'));

INSERT INTO cup
VALUES      ('Serie A',
            'Italy',
            To_date('1898', 'YYYY'));

INSERT INTO cup
VALUES      ('Coppa Italia',
            'Italy',
            To_date('1922', 'YYYY'));

INSERT INTO won
VALUES      ('Bayern München',
            'Säbener Straße 51-57 81547 München Germany',
            'Bundesliga',
            'Germany',
            To_date('2017', 'YYYY'));

INSERT INTO won
VALUES      ('Bayern München',
            'Säbener Straße 51-57 81547 München Germany',
            'DFB-Pokal',
            'Germany',
            To_date('2016', 'YYYY'));

INSERT INTO won
VALUES      ('Bayern München',
            'Säbener Straße 51-57 81547 München Germany',
            'UEFA Champions League',
            'Europe',
            To_date('2013', 'YYYY'));

```

```

INSERT INTO won
VALUES ('Bayern München',
       'Säbener Straße 51-57 81547 München Germany',
       'UEFA Champions League',
       'Europe',
       To_date('2001', 'YYYY'));

INSERT INTO won
VALUES ('Bayern München',
       'Säbener Straße 51-57 81547 München Germany',
       'UEFA Super Cup',
       'Europe',
       To_date('2013', 'YYYY'));

INSERT INTO won
VALUES ('Bayern München',
       'Säbener Straße 51-57 81547 München Germany',
       'FIFA Club World Cup',
       'International',
       To_date('2013', 'YYYY'));

INSERT INTO won
VALUES ('Borussia Dortmund',
       'Rheinlanddamm 207-209 44137 Dortmund Germany',
       'Bundesliga',
       'Germany',
       To_date('2012', 'YYYY'));

INSERT INTO won
VALUES ('Borussia Dortmund',
       'Rheinlanddamm 207-209 44137 Dortmund Germany',
       'DFB-Pokal',
       'Germany',
       To_date('2017', 'YYYY'));

INSERT INTO won
VALUES ('Borussia Dortmund',
       'Rheinlanddamm 207-209 44137 Dortmund Germany',
       'UEFA Champions League',
       'Europe',
       To_date('1997', 'YYYY'));

INSERT INTO won
VALUES ('VfL Wolfsburg',
       'In den Allerwiesen 1 38446 Wolfsburg Germany',
       'Bundesliga',
       'Germany',
       To_date('2009', 'YYYY'));

INSERT INTO won
VALUES ('VfL Wolfsburg',
       'In den Allerwiesen 1 38446 Wolfsburg Germany',
       'DFB-Pokal',
       'Germany',
       To_date('2015', 'YYYY'));

```

```
INSERT INTO won
VALUES ('Arsenal FC',
       'Highbury House, 75 Drayton Park N5 1BU London England',

       'Premier League', 'England',
       To_date('2004', 'YYYY'));
```

```
INSERT INTO won
VALUES ('Arsenal FC',
       'Highbury House, 75 Drayton Park N5 1BU London England',

       'FA Cup',
       'England',
       To_date('2017', 'YYYY'));
```

```
INSERT INTO won
VALUES ('Leicester City',
       'Filbert Way LE2 7FL Leicester England',
       'Premier League',
       'England',
       To_date('2016', 'YYYY'));
```

```
INSERT INTO won
VALUES ('Juventus FC',
       'Corso Galileo Ferraris 32 10128 Torino Italy',
       'Serie A',
       'Italy',
       To_date('2017', 'YYYY'));
```

```
INSERT INTO won
VALUES ('Juventus FC',
       'Corso Galileo Ferraris 32 10128 Torino Italy',
       'Coppa Italia',
       'Italy',
       To_date('2017', 'YYYY'));
```

```
INSERT INTO won
VALUES ('Juventus FC',
       'Corso Galileo Ferraris 32 10128 Torino Italy',
       'UEFA Champions League',
       'Europe',
       To_date('1996', 'YYYY'));
```

```
INSERT INTO won
VALUES ('AS Roma',
       'Via di Trigoria Km 3600 00128 Roma Italy',
       'Serie A',
       'Italy',
       To_date('2001', 'YYYY'));
```

```
INSERT INTO won
VALUES ('AS Roma',
       'Via di Trigoria Km 3600 00128 Roma Italy',
       'Coppa Italia',
       'Italy', To_date('2008', 'YYYY'));
```

```
INSERT INTO won
VALUES ('Atlético Madrid',
       'Paseo Virgen del Puerto 67 28005 Madrid Spain',
       'La Liga', 'Spain', To_date('2014', 'YYYY'));
```

```
INSERT INTO won
VALUES ('Atlético Madrid',
       'Paseo Virgen del Puerto 67 28005 Madrid Spain',
       'Copa del Rey',
       'Spain',
       To_date('2013', 'YYYY'));
```

```
INSERT INTO won
VALUES ('Atlético Madrid',
       'Paseo Virgen del Puerto 67 28005 Madrid Spain',
       'UEFA Europa League',
       'Europe',
       To_date('2012', 'YYYY'));
```

```
INSERT INTO won
VALUES ('Atlético Madrid',
       'Paseo Virgen del Puerto 67 28005 Madrid Spain',
       'UEFA Europa League',
       'Europe',
       To_date('2010', 'YYYY'));
```

```
INSERT INTO won
VALUES ('Atlético Madrid',
       'Paseo Virgen del Puerto 67 28005 Madrid Spain',
       'UEFA Super Cup',
       'Europe',
       To_date('2013', 'YYYY'));
```

```
INSERT INTO won
VALUES ('Atlético Madrid',
       'Paseo Virgen del Puerto 67 28005 Madrid Spain',
       'UEFA Champions League',
       'Europe',
       To_date('2014', 'YYYY'));
```

```
INSERT INTO won
VALUES ('Atlético Madrid',
       'Paseo Virgen del Puerto 67 28005 Madrid Spain',
       'UEFA Super Cup',
       'Europe',
       To_date('2014', 'YYYY'));
```

```
INSERT INTO won
VALUES ('Atlético Madrid',
       'Paseo Virgen del Puerto 67 28005 Madrid Spain',
       'UEFA Super Cup',
       'Europe',
       To_date('2011', 'YYYY'));
```

```
INSERT INTO sponsor
VALUES ('www.adidas-group.com',
       'Adidas',
       To_date('1949-08-18', 'YYYY-MM-DD'),
       'Herzogenaurach, Germany');
```

```
INSERT INTO sponsor
VALUES ('www.puma.com',
       'PUMA',
       To_date('1948', 'YYYY'),
       'Herzogenaurach, Germany');
```

```
INSERT INTO sponsor
VALUES ('www.nike.com',
       'Nike, Inc.',
       To_date('1964-01-25', 'YYYY-MM-DD'),
       'Washington Country, Oregon, United States');
```

```
INSERT INTO sponsor
VALUES ('emirates.com',
       'Emirates Airline',
       To_date('1985-03-25', 'YYYY-MM-DD'),
       'Garhoud, Dubai, United Arab Emirates');
```

```
INSERT INTO sponsor
VALUES ('www.allianz.com',
       'Allianz SE',
       To_date('1890', 'YYYY'),
       'München, Germany');
```

```
INSERT INTO sponsor
VALUES ('www.easports.com', 'EA Sports', To_date('1991', 'YYYY',
       'Redwood City, California, United States');
```

```
INSERT INTO sponsor
VALUES ('www.coca-colacompany.com',
       'Coca-Cola',
       To_date('1886-05-08', 'YYYY-MM-DD'),
       'Atlanta, Georgia, United States');
```

```
INSERT INTO sponsor
VALUES ('volkswagen.com',
       'Volkswagen',
       To_date('1937-05-28', 'YYYY-MM-DD'),
       'Wolfsburg, Germany');
```

```
INSERT INTO supports
VALUES ('www.adidas-group.com',
       'Bayern München',
       'Säbener Straße 51-57 81547 München Germany',
       60000000,
       To_date('2030', 'YYYY'));
```

```

INSERT INTO supports
VALUES ('www.allianz.com',
       'Bayern München',
       'Säbener Straße 51-57 81547 München Germany',
       20000000,
       To_date('2023', 'YYYY'));

INSERT INTO supports
VALUES ('www.easports.com',
       'Bayern München',
       'Säbener Straße 51-57 81547 München Germany',
       5000000,
       To_date('2020', 'YYYY'));

INSERT INTO supports
VALUES ('www.coca-colacompany.com',
       'Bayern München',
       'Säbener Straße 51-57 81547 München Germany',
       15000000,
       To_date('2025', 'YYYY'));

INSERT INTO supports
VALUES ('www.nike.com',
       'RB Leipzig',
       'Neumarkt 29-33 04109 Leipzig Germany',
       6000000,
       To_date('2021', 'YYYY'));

INSERT INTO supports
VALUES ('volkswagen.com',
       'RB Leipzig',
       'Neumarkt 29-33 04109 Leipzig Germany',
       12000000,
       To_date('2024', 'YYYY'));

INSERT INTO supports
VALUES ('www.puma.com',
       'Borussia Dortmund',
       'Rheinlanddamm 207-209 44137 Dortmund Germany',
       8000000,
       To_date('2022', 'YYYY'));

INSERT INTO supports
VALUES ('www.coca-colacompany.com',
       'Borussia Dortmund',
       'Rheinlanddamm 207-209 44137 Dortmund Germany',
       12000000,
       To_date('2023', 'YYYY'));

INSERT INTO supports
VALUES ('www.nike.com',
       'VfL Wolfsburg',
       'In den Allerwiesen 1 38446 Wolfsburg Germany',
       7000000, To_date('2022', 'YYYY'));

```

```

INSERT INTO supports
VALUES ('volkswagen.com',
       'VfL Wolfsburg',
       'In den Allerwiesen 1 38446 Wolfsburg Germany',
       30000000,
       To_date('2029', 'YYYY'));

INSERT INTO supports
VALUES ('www.puma.com',
       'Arsenal FC',
       'Highbury House, 75 Drayton Park N5 1BU London England',
       15000000, To_date('2023', 'YYYY'));

INSERT INTO supports
VALUES ('emirates.com',
       'Arsenal FC',
       'Highbury House, 75 Drayton Park N5 1BU London England',
       30000000,
       To_date('2028', 'YYYY'));

INSERT INTO supports
VALUES ('www.puma.com',
       'Leicester City',
       'Filbert Way LE2 7FL Leicester England',
       12000000,
       To_date('2022', 'YYYY'));

INSERT INTO supports
VALUES ('www.adidas-group.com', 'Juventus FC',
       'Corso Galileo Ferraris 32 10128 Torino Italy',
       22000000, To_date('2019', 'YYYY'));

INSERT INTO supports
VALUES ('www.allianz.com',
       'Juventus FC',
       'Corso Galileo Ferraris 32 10128 Torino Italy',
       18000000,
       To_date('2023', 'YYYY'));

INSERT INTO supports
VALUES ('www.easports.com',
       'Juventus FC',
       'Corso Galileo Ferraris 32 10128 Torino Italy',
       4000000,
       To_date('2020', 'YYYY'));

INSERT INTO supports
VALUES ('www.nike.com',
       'AS Roma',
       'Via di Trigoria Km 3600 00128 Roma Italy',
       9000000,
       To_date('2025', 'YYYY'));

```

```
INSERT INTO supports
VALUES ('www.nike.com',
       'Atlético Madrid',
       'Paseo Virgen del Puerto 67 28005 Madrid Spain',
       10000000,
       To_date('2026', 'YYYY'));
```

```
INSERT INTO supports
VALUES ('www.easports.com',
       'Atlético Madrid',
       'Paseo Virgen del Puerto 67 28005 Madrid Spain',
       3000000,
       To_date('2020', 'YYYY'));
```

```
INSERT INTO supports
VALUES ('www.coca-colacompany.com',
       'Atlético Madrid',
       'Paseo Virgen del Puerto 67 28005 Madrid Spain',
       12000000,
       To_date('2023', 'YYYY'));
```

Queries

--1. Managers who were born in Italy

RA1: π manager_name, manager_born, manager_nationality (σ manager_nationality = 'Italy' (manager))

```
SELECT manager_name,  
       manager_born,  
       manager_nationality  
FROM   manager  
WHERE  manager_nationality = 'Italy';
```

--2. Champions League winner clubs

RA2: $\rho_{CL_winners \leftarrow club_name} (\pi_{club_name} (\sigma_{cup_name \text{ like } '\%Champions League'} (won)))$

```
SELECT DISTINCT club_name AS CL_winners  
FROM   won  
WHERE  cup_name LIKE '_%Champions League';
```

--3. Sponsorships with at least 27m euros per year
and at least until 2027

RA3: $\tau_{money_per_year \text{ desc, end_date asc}} (\pi_{sponsor_name, club_name, money_per_year, end_date} (\sigma_{sp.sponsor_website = su.sponsor_website \text{ and } money_per_year \geq 27000000 \text{ and } end_date \geq date('2027')} (\rho_{sp} (sponsor) \times \rho_{su} (supports))))$

```
SELECT sponsor_name,  
       club_name,  
       money_per_year,  
       end_date  
FROM   sponsor sp,  
       supports su  
WHERE  sp.sponsor_website = su.sponsor_website  
       AND money_per_year >= 27000000  
       AND end_date >= To_date('2027', 'YYYY')  
ORDER BY money_per_year DESC,  
       end_date ASC;
```

--4. Clubs whose manager has been appointed within two months

```
SELECT club_name,  
       manager_name,  
       manager_appointed  
FROM   club c,  
       manager m  
WHERE  c.manager_id = m.manager_id  
       AND Months_between(SYSDATE, manager_appointed) <= 2  
ORDER BY manager_appointed DESC;
```

--5. Players whose salary is greater than that of all Bayern players

```
SELECT p.player_name,
       c.salary,
       c.moving_to_club_name,
       c.moving_to_club_address
FROM   player p,
       contract c
WHERE  p.player_id = c.player_id
AND    c.salary > ALL (SELECT c2.salary
                      FROM   contract c2
                      WHERE  c2.moving_to_club_name = 'Bayern München'
                      AND    c2.moving_to_club_address LIKE
                           'Säbener Straße%');
```

--6. Clubs' total market value

RA4: $\tau_{\text{total_market_value desc}} (\pi_{c.\text{club_name}, \text{total_market_value}} (\gamma_{c.\text{club_name}; \text{SUM}(p.\text{market_value}) \rightarrow \text{total_market_value}} (\sigma_{c.\text{club_name} = p.\text{club_name} \text{ and } c.\text{club_address} = p.\text{club_address}} (\rho_c(\text{club}) \times \rho_p(\text{player}))))))$

```
SELECT c.club_name,
       SUM(p.market_value) AS total_market_value
FROM   club c,
       player p
WHERE  c.club_name = p.club_name
AND    c.club_address = p.club_address
GROUP BY c.club_name
ORDER BY total_market_value DESC;
```

--7. Agents who manage at least 6 players

RA5: $\tau_{\text{number_of_managed_players desc}} (\pi_{\text{agent_name}, \text{number_of_managed_players}} (\sigma_{\text{number_of_managed_players} > 5} (\gamma_{\text{agent_name}; \text{COUNT}(*) \rightarrow \text{number_of_managed_players}} (\sigma_{a.\text{agent_website} = p.\text{agent_website}} (\rho_a(\text{agent}) \times \rho_p(\text{player}))))))$

```
SELECT agent_name,
       Count(*) AS number_of_managed_players
FROM   agent a,
       player p
WHERE  a.agent_website = p.agent_website
GROUP BY agent_name
HAVING Count(*) > 5
ORDER BY number_of_managed_players DESC;
```

--8. German clubs whose mascot is a bear or a wolf

RA6: $\pi_{c.club_name, c.club_address, mascot_name, species}$
 $(\sigma_{c.club_name = m.club_name \text{ and } c.club_address \text{ like } _ \%Germany\% \text{ and } (species = 'Bear' \text{ or } species = 'Wolf')})$
 $(\rho_c(\text{club}) \times \rho_m(\text{mascot}))$

```
SELECT c.club_name,
       c.club_address,
       mascot_name,
       species
FROM   club c,
       mascot m
WHERE  c.club_name = m.club_name
      AND c.club_address LIKE '_%Germany%'
      AND (species = 'Bear'
          OR species = 'Wolf');
```

--9. Another solution for 4. (this is the chosen one)

RA7: $\pi_{c.club_name, c.club_address, mascot_name, species}$
 $(\sigma_{c.club_name = m.club_name \text{ and } c.club_address \text{ like } _ \%Germany\% \text{ and } species = 'Bear'})$
 $(\rho_c(\text{club}) \times \rho_m(\text{mascot})) \cup \pi_{c.club_name, c.club_address, mascot_name, species}$
 $(\sigma_{c.club_name = m.club_name \text{ and } c.club_address \text{ like } _ \%Germany\% \text{ and } species = 'Wolf'})$
 $(\rho_c(\text{club}) \times \rho_m(\text{mascot}))$

```
SELECT c.club_name,
       c.club_address,
       mascot_name,
       species
FROM   club c,
       mascot m
WHERE  c.club_name = m.club_name
      AND c.club_address LIKE '_%Germany%'
      AND species = 'Bear'

UNION

SELECT c.club_name,
       c.club_address,
       mascot_name,
       species
FROM   club c,
       mascot m
WHERE  c.club_name = m.club_name
      AND c.club_address LIKE '_%Germany%'
      AND species = 'Wolf';
```

--10. Clubs established between 1890 and 1910, and sponsored by Allianz and EA

$$\begin{aligned} \text{RA8: } & \rho_{\text{Founded}_{1890_1910} \leftarrow \text{club_founded}} (\pi_{c.\text{club_name}, \text{club_founded}} \\ & (\sigma_{c.\text{club_name} = s.\text{club_name} \text{ and } c.\text{club_address} = s.\text{club_address} \text{ and} \\ & c.\text{club_founded} \geq \text{date}('1890-01-01') \text{ and } c.\text{club_founded} \leq \text{date}('1910-12-31') \text{ and } s.\text{sponsor_website} = 'www.allianz.com'} \\ & (\rho_c(\text{club}) \times \rho_s(\text{supports})))) \cap \rho_{\text{Founded}_{1890_1910} \leftarrow \text{club_founded}} (\pi_{c.\text{club_name}, \text{club_founded}} \\ & (\sigma_{c.\text{club_name} = s.\text{club_name} \text{ and } c.\text{club_address} = s.\text{club_address} \text{ and} \\ & c.\text{club_founded} \geq \text{date}('1890-01-01') \text{ and } c.\text{club_founded} \leq \text{date}('1910-12-31') \text{ and } s.\text{sponsor_website} = 'www.easports.com'} \\ & (\rho_c(\text{club}) \times \rho_s(\text{supports})))) \end{aligned}$$

```
SELECT c.club_name,
       club_founded AS Founded_1890_1910
FROM   club c,
       supports s
WHERE  c.club_name = s.club_name
AND    c.club_address = s.club_address
AND    c.club_founded BETWEEN To_date('1890-01-01', 'YYYY-MM-DD') AND
                               To_date('1910-12-31', 'YYYY-MM-DD')
AND    s.sponsor_website = 'www.allianz.com'
INTERSECT
SELECT c.club_name,
       club_founded AS Founded_1890_1910
FROM   club c,
       supports s
WHERE  c.club_name = s.club_name
AND    c.club_address = s.club_address
AND    c.club_founded BETWEEN To_date('1890-01-01', 'YYYY-MM-DD')
                               AND To_date('1910-12-31', 'YYYY-MM-DD')
AND    s.sponsor_website = 'www.easports.com';
```

```
--11. Clubs who won all european cups
```

```
SELECT c.club_name,  
       c.club_address  
FROM   club c  
WHERE  NOT EXISTS ((SELECT cup.cup_name  
                     FROM   cup  
                     WHERE  region = 'Europe')  
MINUS  
          (SELECT DISTINCT won.cup_name  
            FROM   won  
            WHERE  c.club_name = won.club_name  
                  AND c.club address = won.club address));
```

```
--12. Player positions for which the average height is the minimum
    over all positions
```

[illegible]

--13. *Players' IDs whose salaries are greater than the 'P-3' player's salary*

RA9: $\rho_{\text{players_earn_more_than_P_3} \leftarrow \text{greater.player_id}}$
 $(\pi_{\text{greater.player_id}} (\sigma_{\text{p3.player_id} = \text{'P-3'}} \text{ and } \text{greater.salary} > \text{p3.salary}$
 $(\rho_{\text{greater}}(\text{contract}) \times \rho_{\text{p3}}(\text{contract})))$

```
SELECT greater.player_id AS players_earn_more_than_P_3
FROM   contract greater,
       contract p3
WHERE  p3.player_id = 'P-3'
      AND greater.salary > p3.salary;
```

--14. *Average height of players for every position where the average height is at least 180 cm*

RA10: $\tau_{\text{average_height desc}} (\pi_{\text{position, average_height}}$
 $(\sigma_{\text{average_height} > 180} (\gamma_{\text{position; AVG(height) \rightarrow average_height}} (\text{player}))))$

```
SELECT position,
       Round(Avg(height), 1) AS average_height
FROM   player
GROUP  BY position
HAVING Avg(height) > 180
ORDER  BY average_height DESC;
```

View

```
DROP VIEW two_footed_football_players;

CREATE VIEW two_footed_football_players AS
  SELECT player_name,
         player_nationality,
         position
  FROM   player
  WHERE  player.foot = 'both';
```

Update

```
UPDATE contract
SET    salary = 6000000,
       end_date = To_date('2022-06-30', 'YYYY-MM-DD')
WHERE  contract_id = 'C-2';
```

Alter table

```
ALTER TABLE sponsor
DROP COLUMN sponsor_founded;

ALTER TABLE player
MODIFY position VARCHAR2(50);
```

Normalization

Club (name, address, founded, stadium, Manager.id)

$F_{\text{Club}} = \{\text{name \& address} \rightarrow \text{founded}, \text{name \& address} \rightarrow \text{stadium},$
 $\text{name \& address} \rightarrow \text{Manager.id}, \text{Manager.id} \rightarrow \text{name},$
 $\text{Manager.id} \rightarrow \text{address}, \text{Manager.id} \rightarrow \text{founded}, \text{Manager.id} \rightarrow \text{stadium}\}$

1NF ✓, 2NF ✓, 3NF ✓, BCNF ✓

Employee (id, name, born, nationality, Club.name, Club.address)

$F_{\text{Employee}} = \{\text{id} \rightarrow \text{name}, \text{id} \rightarrow \text{born}, \text{id} \rightarrow \text{nationality},$
 $\text{id} \rightarrow \text{Club.name}, \text{id} \rightarrow \text{Club.address}\}$

1NF ✓, 2NF ✓, 3NF ✓, BCNF ✓

Player (id, name, born, nationality, position, market value, height, foot, Club.name, Club.address, Agent.website)

$F_{\text{Player}} = \{\text{id} \rightarrow \text{name}, \text{id} \rightarrow \text{born}, \text{id} \rightarrow \text{nationality}, \text{id} \rightarrow \text{position},$
 $\text{id} \rightarrow \text{market value}, \text{id} \rightarrow \text{height}, \text{id} \rightarrow \text{foot}, \text{id} \rightarrow \text{Club.name},$
 $\text{id} \rightarrow \text{Club.address}, \text{id} \rightarrow \text{Agent.website}\}$

1NF ✓, 2NF ✓, 3NF ✓, BCNF ✓

Manager (id, name, born, nationality, appointed)

$F_{\text{Manager}} = \{\text{id} \rightarrow \text{name}, \text{id} \rightarrow \text{born}, \text{id} \rightarrow \text{nationality}, \text{id} \rightarrow \text{appointed}\}$

1NF ✓, 2NF ✓, 3NF ✓, BCNF ✓

Agent (website, name, founded, headquarters)

$F_{\text{Agent}} = \{\text{website} \rightarrow \text{name}, \text{website} \rightarrow \text{founded}, \text{website} \rightarrow \text{headquarters}\}$

1NF ✓, 2NF ✓, 3NF ✓, BCNF ✓

Contract (Player.id, Club1.name, Club1.address, Club2.name, Club2.address, id, transfer fee, salary, start date, end date)

$F_{\text{Contract}} = \{$
 $\text{Player.id \& Club1.name \& Club1.address \& Club2.name \& Club2.address \& id} \rightarrow \text{transfer fee},$
 $\text{Player.id \& Club1.name \& Club1.address \& Club2.name \& Club2.address \& id} \rightarrow \text{salary},$
 $\text{Player.id \& Club1.name \& Club1.address \& Club2.name \& Club2.address \& id} \rightarrow \text{start date},$
 $\text{Player.id \& Club1.name \& Club1.address \& Club2.name \& Club2.address \& id} \rightarrow \text{end date}\}$

1NF ✓, 2NF ✓, 3NF ✓, BCNF ✓

Cup (name, region, founded)

$F_{\text{Cup}} = \{\text{name \& region} \rightarrow \text{founded}\}$

1NF ✓, 2NF ✓, 3NF ✓, BCNF ✓

Sponsor (website, name, founded, headquarters)

$F_{\text{Sponsor}} = \{\text{website} \rightarrow \text{name}, \text{website} \rightarrow \text{founded}, \text{website} \rightarrow \text{headquarters}\}$

1NF ✓, 2NF ✓, 3NF ✓, BCNF ✓

Mascot (Club.name, Club.address, name, species)

$F_{\text{Mascot}} = \{\text{Club.name} \ \& \ \text{Club.address} \ \& \ \text{name} \rightarrow \text{species}\}$

1NF ✓, 2NF ✓, 3NF ✓, BCNF ✓

won (Club.name, Club.address, Cup.name, Cup.region, year)

$F_{\text{won}} = \emptyset$

1NF ✓, 2NF ✓, 3NF ✓, BCNF ✓

supports (Sponsor.website, Club.name, Club.address, money p.a., end date)

$F_{\text{supports}} = \{\text{Sponsor.website} \ \& \ \text{Club.name} \ \& \ \text{Club.address} \rightarrow \text{money p.a.},$
 $\text{Sponsor.website} \ \& \ \text{Club.name} \ \& \ \text{Club.address} \rightarrow \text{end date}\}$

1NF ✓, 2NF ✓, 3NF ✓, BCNF ✓

All the tables, so the database is in Boyce-Codd Normal Form.

Triggers

```
CREATE TABLE bayern_arrivals
(
    player_id VARCHAR2(100),
    fee        NUMBER,
    from_club  VARCHAR2(100)
);

CREATE TRIGGER trig_bayern_arrivals
AFTER INSERT ON contract
REFERENCING NEW AS newrow
FOR EACH ROW
WHEN (newrow.moving_to_club_name = 'Bayern München'
      AND newrow.moving_to_club_address =
          'Säbener Straße 51-57 81547 München Germany')
BEGIN
    INSERT INTO bayern_arrivals
    VALUES      (:newRow.player_id,
                  :newRow.transfer_fee,
                  :newRow.moving_from_club_name);
END;
```

```

INSERT INTO contract
VALUES      ('P-18',
            'Bayern München',
            'Säbener Straße 51-57 81547 München Germany',
            'VfL Wolfsburg',
            'In den Allerwiesen 1 38446 Wolfsburg Germany',
            14,
            8000000,
            4000000,
            To_date('2018-07-07', 'YYYY-MM-DD'),
            To_date('2020-06-30', 'YYYY-MM-DD'));

```

```

SELECT *
FROM    bayern_arrivals;

```

```

DROP TABLE bayern_arrivals CASCADE CONSTRAINTS;

```

```

DROP TRIGGER trig_bayern_arrivals;

```

```

CREATE TABLE salary_changes
(
    player_id VARCHAR2(100),
    old_sal    NUMBER,
    new_sal    NUMBER,
    diff       NUMBER
);

```

```

CREATE TRIGGER trig_salary_changes
BEFORE DELETE OR INSERT OR UPDATE ON contract
FOR EACH ROW
WHEN (NEW.contract_id > 0)

```

```

DECLARE
    sal_diff NUMBER;
BEGIN
    sal_diff := :NEW.salary - :OLD.salary;

```

```

    INSERT INTO salary_changes
VALUES      (:NEW.player_id,
            :OLD.salary,
            :NEW.salary,
            sal_diff);

```

```

END;
/

```

```

UPDATE contract
SET      salary = 12000000,
        end_date = To_date('2021-06-30', 'YYYY-MM-DD')
WHERE    contract_id = 3;

```

```

SELECT * FROM    salary_changes;

```

```

DROP TABLE salary_changes CASCADE CONSTRAINTS;

```

```

DROP TRIGGER trig_salary_changes;

```