A Project Report on

Football Match Management System

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CERTIFICATE

This is to certify that the project entitled "**Football Match Management System**" is a bonafide report of the work carried out by

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of Department of Information Technology, semester V, under the guidance and supervision for the subject Database Management System. They were involved in Project training during academic year 2022-2023.

Prof. Archana N. Vyas
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Date:14/10/2022

Prof. Vipul Dabhi
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<u>COMMENDATION</u>

We would like to give our sincere acknowledgement to everybody responsible for the successful completion of our project "FOOTBALLL MATCH MANAGEMENT SYSTEM".

The success and final outcome of this project required a lot of guidance and assistance from many people and we are extremely privileged to have got this all along the completion of this project.

We owe our deep gratitude to our project guide Prof.Archana N. Vyas, who took been interest on our project work and guided us all along till the completion of our project work by providing all the necessary help for developing a solid Database System.

Finally, we convoy our acknowledgement to all our friends and family members who directly or indirectly associated with us in the successful completion of the project. We thank one and all.

INDEX

1.1 <u>SYSTEM OVERVIEW</u>

1.1 <u>CURRENT SYSTEM</u>

Nowadays it is not possible for everyone to go to watch football matches. So, it is mandatory to find a way that people can see the match results without going to watch it.

In current system it is difficult to keep all details related to football through pen paper method, so this system is more convenient for everyone.

Our database is created in such a way that it will keep a track of football club matches, their match scores, details of team members, details of coach and refree. Our major focus will be on storing results of matches, scores of clubs and all the details regarding players, penalties and goals. It will be done in an effective manner since we do not want our database to become redundant.

We want to provide our users an easy way to keep track of every single detail regarding football club matches.

1.2 <u>OBJECTIVES OF THE PROPOSED SYSTEM</u>

Football is the world's most popular game in numbers of participants and spectators. As a result, enthusiasm for football among people is increasing exponentially. Therefore, through our database system, user will be able to access all the details like which player scored the highest goals in a match, match results, penalties in a match, club details and sponsors associated with them in a football match. The main objective is to automate and facilitate process of managing the football match event.

1.3 <u>ADVANTAGES OF THIS PROJECT</u>

- It will become easy for people to watch the match scores, player details at any point of time.
- It will store the details of all the players and matches held along with its result, venue, coach, refree information.
- Searching will become more efficient and easier.
- It will reduce the hectic of maintaining the record of inventories.

1. ENTITY-RELATIONSHIP MODEL

Link: https://erdplus.com//standalone
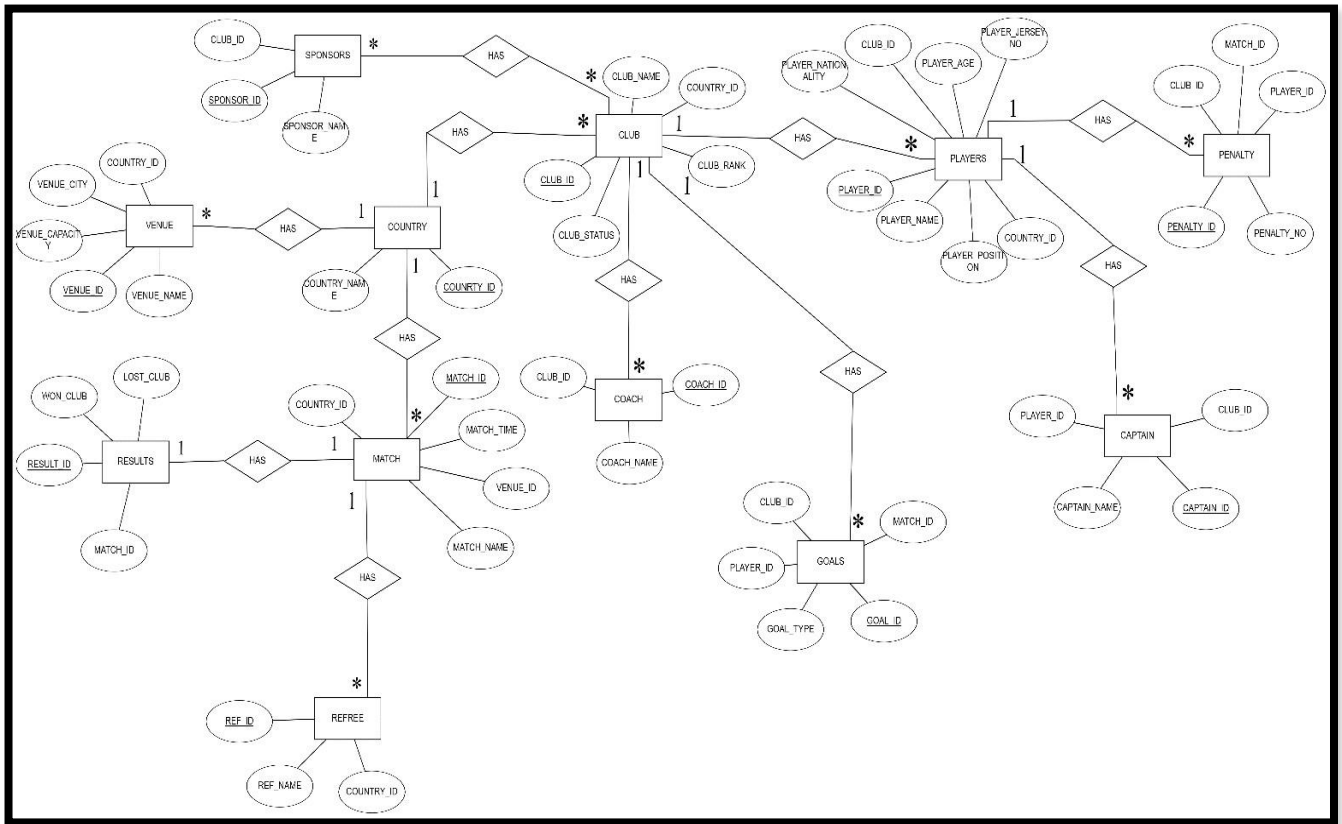
2. RELATIONAL SCHEMA DIAGRAM

Link: https://dbdiagram.io/d/632c61e17b3d2034ff8dec72
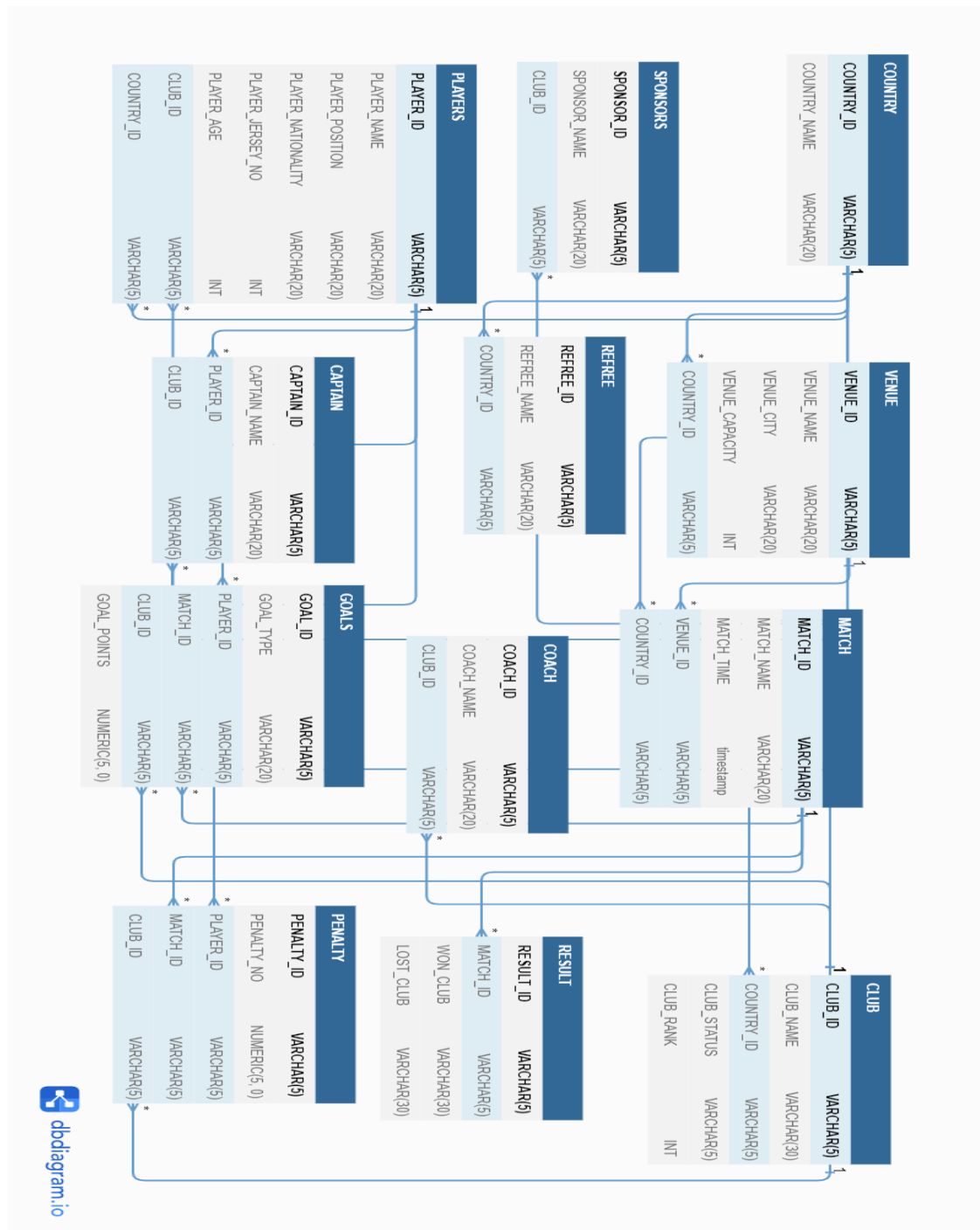
3. DATA DICTIONARY

4.1 COUNTRY

```
postgres=# \d country;
                  Table "public.country"
    Column     |         Type          | Collation | Nullable | Default
---------------+-----------------------+-----------+----------+---------
 country_id    | character varying(5)  |           | not null |
 country_name  | character varying(20) |           | not null |
Indexes:
    "country_pkey" PRIMARY KEY, btree (country_id)
Referenced by:
    TABLE "club" CONSTRAINT "club_country_id_fkey" FOREIGN KEY (country_id) REFERENCES country(country_id)
    TABLE "match" CONSTRAINT "match_country_id_fkey" FOREIGN KEY (country_id) REFERENCES country(country_id)
    TABLE "players" CONSTRAINT "players_country_id_fkey" FOREIGN KEY (country_id) REFERENCES country(country_id)
    TABLE "refree" CONSTRAINT "refree_country_id_fkey" FOREIGN KEY (country_id) REFERENCES country(country_id)
    TABLE "venue" CONSTRAINT "venue_country_id_fkey" FOREIGN KEY (country_id) REFERENCES country(country_id)


postgres=#
```

4.2 VENUE

```
postgres=# \d venue;
                   Table "public.venue"
     Column      |         Type          | Collation | Nullable | Default
-----------------+-----------------------+-----------+----------+---------
 venue_id        | character varying(5)  |           | not null |
 venue_name      | character varying(20) |           | not null |
 venue_city      | character varying(20) |           | not null |
 venue_capacity  | integer               |           | not null |
 country_id      | character varying(5)  |           |          |
Indexes:
    "venue_pkey" PRIMARY KEY, btree (venue_id)
Foreign-key constraints:
    "venue_country_id_fkey" FOREIGN KEY (country_id) REFERENCES country(country_id)
Referenced by:
    TABLE "match" CONSTRAINT "match_venue_id_fkey" FOREIGN KEY (venue_id) REFERENCES venue(venue_id)
```

4.3 REFREE

```
postgres=# \d refree;
                  Table "public.refree"
   Column     |         Type          | Collation | Nullable | Default
--------------+-----------------------+-----------+----------+---------
 ref_id       | character varying(5)  |           | not null |
 ref_name     | character varying(20) |           | not null |
 country_id   | character varying(5)  |           |          |
Indexes:
    "refree_pkey" PRIMARY KEY, btree (ref_id)
Foreign-key constraints:
    "refree_country_id_fkey" FOREIGN KEY (country_id) REFERENCES country(country_id)

postgres=#
```

4.4 MATCH

```
postgres=# \d match;
                    Table "public.match"
   Column   |            Type             | Collation | Nullable | Default
------------+-----------------------------+-----------+----------+---------
 match_id   | character varying(5)        |           | not null |
 match_name | character varying(20)       |           | not null |
 match_time | timestamp without time zone |           | not null |
 venue_id   | character varying(5)        |           |          |
 country_id | character varying(5)        |           |          |
Indexes:
    "match_pkey" PRIMARY KEY, btree (match_id)
Foreign-key constraints:
    "match_country_id_fkey" FOREIGN KEY (country_id) REFERENCES country(country_id)
    "match_venue_id_fkey" FOREIGN KEY (venue_id) REFERENCES venue(venue_id)
Referenced by:
    TABLE "goals" CONSTRAINT "goals_match_id_fkey" FOREIGN KEY (match_id) REFERENCES match(match_id)
    TABLE "penalty" CONSTRAINT "penalty_match_id_fkey" FOREIGN KEY (match_id) REFERENCES match(match_id)
    TABLE "result" CONSTRAINT "result_match_id_fkey" FOREIGN KEY (match_id) REFERENCES match(match_id)
```

4.5 CLUB

```
postgres=# \d club;
                    Table "public.club"
   Column    |         Type          | Collation | Nullable |        Default
-------------+-----------------------+-----------+----------+------------------------
 club_id     | character varying(5)  |           | not null |
 club_name   | character varying(30) |           | not null |
 country_id  | character varying(5)  |           |          |
 club_status | character varying(5)  |           |          | 'NA'::character varying
 club_rank   | integer               |           |          |
Indexes:
    "club_pkey" PRIMARY KEY, btree (club_id)
Foreign-key constraints:
    "club_country_id_fkey" FOREIGN KEY (country_id) REFERENCES country(country_id)
Referenced by:
    TABLE "captain" CONSTRAINT "captain_club_id_fkey" FOREIGN KEY (club_id) REFERENCES club(club_id)
    TABLE "coach" CONSTRAINT "coach_club_id_fkey" FOREIGN KEY (club_id) REFERENCES club(club_id)
    TABLE "goals" CONSTRAINT "goals_club_id_fkey" FOREIGN KEY (club_id) REFERENCES club(club_id)
    TABLE "penalty" CONSTRAINT "penalty_club_id_fkey" FOREIGN KEY (club_id) REFERENCES club(club_id)
    TABLE "players" CONSTRAINT "players_club_id_fkey" FOREIGN KEY (club_id) REFERENCES club(club_id)
    TABLE "sponsors" CONSTRAINT "sponsors_club_id_fkey" FOREIGN KEY (club_id) REFERENCES club(club_id)
```

4.6 COACH

```
postgres=# \d coach;
                    Table "public.coach"
  Column    |        Type          | Collation | Nullable | Default
------------+----------------------+-----------+----------+---------
 coach_id   | character varying(5) |           | not null |
 coach_name | character varying(20)|           | not null |
 club_id    | character varying(5) |           |          |
Indexes:
    "coach_pkey" PRIMARY KEY, btree (coach_id)
Foreign-key constraints:
    "coach_club_id_fkey" FOREIGN KEY (club_id) REFERENCES club(club_id)
```

4.7 PLAYERS

```
postgres=# \d players;
                     Table "public.players"
      Column       |        Type          | Collation | Nullable | Default
-------------------+----------------------+-----------+----------+---------
 player_id         | character varying(5) |           | not null |
 player_name       | character varying(20)|           | not null |
 player_position   | character varying(20)|           | not null |
 player_nationality| character varying(20)|           | not null |
 player_jersey_no  | integer              |           | not null |
 player_age        | integer              |           | not null |
 club_id           | character varying(5) |           |          |
 country_id        | character varying(5) |           |          |
Indexes:
    "players_pkey" PRIMARY KEY, btree (player_id)
Foreign-key constraints:
    "players_club_id_fkey" FOREIGN KEY (club_id) REFERENCES club(club_id)
    "players_country_id_fkey" FOREIGN KEY (country_id) REFERENCES country(country_id)
Referenced by:
    TABLE "captain" CONSTRAINT "captain_player_id_fkey" FOREIGN KEY (player_id) REFERENCES players(player_id)
    TABLE "goals" CONSTRAINT "goals_player_id_fkey" FOREIGN KEY (player_id) REFERENCES players(player_id)
    TABLE "penalty" CONSTRAINT "penalty_player_id_fkey" FOREIGN KEY (player_id) REFERENCES players(player_id)
```

4.8 SPONSORS

```
postgres=# \d sponsors;
                    Table "public.sponsors"
   Column     |        Type          | Collation | Nullable | Default
--------------+----------------------+-----------+----------+---------
 sponsor_id   | character varying(5) |           | not null |
 sponsor_name | character varying(20)|           | not null |
 club_id      | character varying(5) |           |          |
Indexes:
    "sponsors_pkey" PRIMARY KEY, btree (sponsor_id)
Foreign-key constraints:
    "sponsors_club_id_fkey" FOREIGN KEY (club_id) REFERENCES club(club_id)
```

4.9 CAPTAIN

```
postgres=# \d captain;
                  Table "public.captain"
   Column      |         Type          | Collation | Nullable | Default
-------------+-----------------------+-----------+----------+---------
 captain_id   | character varying(5)  |           | not null |
 captain_name | character varying(20) |           | not null |
 player_id    | character varying(5)  |           |          |
 club_id      | character varying(5)  |           |          |
Indexes:
    "captain_pkey" PRIMARY KEY, btree (captain_id)
Foreign-key constraints:
    "captain_club_id_fkey" FOREIGN KEY (club_id) REFERENCES club(club_id)
    "captain_player_id_fkey" FOREIGN KEY (player_id) REFERENCES players(player_id)
```

4.10 GOALS

```
postgres=# \d goals;
                  Table "public.goals"
   Column     |         Type          | Collation | Nullable | Default
-------------+-----------------------+-----------+----------+---------
 goal_id      | character varying(5)  |           | not null |
 goal_type    | character varying(20) |           | not null |
 player_id    | character varying(5)  |           |          |
 match_id     | character varying(5)  |           |          |
 club_id      | character varying(5)  |           |          |
 goal_points  | numeric(5,0)          |           |          |
Indexes:
    "goals_pkey" PRIMARY KEY, btree (goal_id)
Foreign-key constraints:
    "goals_club_id_fkey" FOREIGN KEY (club_id) REFERENCES club(club_id)
    "goals_match_id_fkey" FOREIGN KEY (match_id) REFERENCES match(match_id)
    "goals_player_id_fkey" FOREIGN KEY (player_id) REFERENCES players(player_id)
```

4.11 RESULT

```
postgres=# \d result;
                  Table "public.result"
   Column    |         Type          | Collation | Nullable | Default
-----------+-----------------------+-----------+----------+---------
 result_id   | character varying(5)  |           | not null |
 match_id    | character varying(5)  |           |          |
 won_club    | character varying(30) |           | not null |
 lost_club   | character varying(30) |           | not null |
Indexes:
    "result_pkey" PRIMARY KEY, btree (result_id)
Foreign-key constraints:
    "result_match_id_fkey" FOREIGN KEY (match_id) REFERENCES match(match_id)
```

4.12 PENALTY

```
postgres=# \d penalty;
                  Table "public.penalty"
   Column    |         Type         | Collation | Nullable | Default
-------------+----------------------+-----------+----------+---------
 penalty_id  | character varying(5) |           | not null |
 penalty_no  | numeric(5,0)         |           |          |
 player_id   | character varying(5) |           |          |
 match_id    | character varying(5) |           |          |
 club_id     | character varying(5) |           |          |
Indexes:
    "penalty_pkey" PRIMARY KEY, btree (penalty_id)
Foreign-key constraints:
    "penalty_club_id_fkey" FOREIGN KEY (club_id) REFERENCES club(club_id)
    "penalty_match_id_fkey" FOREIGN KEY (match_id) REFERENCES match(match_id)
    "penalty_player_id_fkey" FOREIGN KEY (player_id) REFERENCES players(player_id)
```

5. DATA IMPLEMENTATION

5.1 SCHEMA

5.1.1 COUNTRY

```
CREATE TABLE COUNTRY (
COUNTRY_ID VARCHAR (5) PRIMARY KEY,
COUNTRY_NAME VARCHAR (20) NOT NULL);
```

5.1.2 VENUE

```
CREATE TABLE VENUE (
VENUE_ID VARCHAR (5) PRIMARY KEY,
VENUE_NAME VARCHAR (20) NOT NULL,
VENUE_CITY VARCHAR (20) NOT NULL,
VENUE_CAPACITY INT NOT NULL,
COUNTRY_ID VARCHAR (5) REFERENCES COUNTRY(COUNTRY_ID));
```

5.1.3 REFREE

```
CREATE TABLE REFREE (
REFREE_ID VARCHAR (5) PRIMARY KEY,
REFREE_NAME VARCHAR (20) NOT NULL,
COUNTRY_ID VARCHAR (5) REFERENCES COUNTRY(COUNTRY_ID));
```

5.1.4 MATCH

```
CREATE TABLE MATCH (
MATCH_ID VARCHAR (5) PRIMARY KEY,
MATCH_NAME VARCHAR (20) NOT NULL,
MATCH_TIME TIMESTAMP NOT NULL,
VENUE_ID VARCHAR (5) REFERENCES VENUE(VENUE_ID),
COUNTRY_ID VARCHAR (5) REFERENCES COUNTRY(COUNTRY_ID));
```

5.1.5 CLUB

```
CREATE TABLE CLUB (
CLUB_ID VARCHAR (5) PRIMARY KEY,
CLUB_NAME VARCHAR (30) NOT NULL,
COUNTRY_ID VARCHAR (5) REFERENCES COUNTRY(COUNTRY_ID),
CLUB_STATUS VARCHAR (5) DEFAULT 'NA',
CLUB_RANK INT);
```

5.1.6 COACH

CREATE TABLE COACH (
COACH_ID VARCHAR (5) PRIMARY KEY,
COACH_NAME VARCHAR (20) NOT NULL,
CLUB_ID VARCHAR (5) REFERENCES CLUB(CLUB_ID));

5.1.7 PLAYERS

CREATE TABLE PLAYERS (
PLAYER_ID VARCHAR (5) PRIMARY KEY,
PLAYER_NAME VARCHAR (20) NOT NULL,
PLAYER_POSITION VARCHAR (20) NOT NULL,
PLAYER_NATIONALITY VARCHAR (20) NOT NULL,
PLAYER_JERSEY_NO INT NOT NULL,
PLAYER_AGE INT NOT NULL,
CLUB_ID VARCHAR (5) REFERENCES CLUB(CLUB_ID),
COUNTRY_ID VARCHAR (5) REFERENCES COUNTRY(COUNTRY_ID));

5.1.8 SPONSORS

CREATE TABLE SPONSORS (
SPONSOR_ID VARCHAR (5) PRIMARY KEY,
SPONSOR_NAME VARCHAR (20) NOT NULL,
CLUB_ID VARCHAR (5) REFERENCES CLUB(CLUB_ID));

5.1.9 CAPTAIN

CREATE TABLE CAPTAIN (
CAPTAIN_ID VARCHAR (5) PRIMARY KEY,
CAPTAIN_NAME VARCHAR (20) NOT NULL,
PLAYER_ID VARCHAR (5) REFERENCES PLAYERS(PLAYER_ID),
CLUB_ID VARCHAR (5) REFERENCES CLUB(CLUB_ID));

5.1.10 GOALS

CREATE TABLE GOALS (
GOAL_ID VARCHAR (5) PRIMARY KEY,
GOAL_TYPE VARCHAR (20) NOT NULL,
PLAYER_ID VARCHAR (5) REFERENCES PLAYERS(PLAYER_ID),
MATCH_ID VARCHAR (5) REFERENCES MATCH(MATCH_ID),
CLUB_ID VARCHAR (5) REFERENCES CLUB(CLUB_ID),
GOAL_POINTS NUMERIC (5,0));

5.1.11 RESULT

CREATE TABLE RESULT (
RESULT_ID VARCHAR (5) PRIMARY KEY,

MATCH_ID VARCHAR (5) REFERENCES MATCH(MATCH_ID),
WON_CLUB VARCHAR (30) NOT NULL,
LOST_CLUB VARCHAR (30) NOT NULL);

5.1.12 PENALTY

CREATE TABLE PENALTY (
PENALTY_ID VARCHAR (5) PRIMARY KEY,
PENALTY_NO NUMERIC (5,0),
PLAYER_ID VARCHAR (5) REFERENCES PLAYERS(PLAYER_ID),
MATCH_ID VARCHAR (5) REFERENCES MATCH(MATCH_ID),
CLUB_ID VARCHAR (5) REFERENCES CLUB(CLUB_ID));

5.2 INSERTING DATA VALUES

5.2.1 COUNTRY

INSERT INTO COUNTRY VALUES ('CY1','SPAIN');
INSERT INTO COUNTRY VALUES ('CY2','ENGLAND');
INSERT INTO COUNTRY VALUES ('CY3','UNITED KINGDOM');
INSERT INTO COUNTRY VALUES ('CY4','GERMANY');

```
postgres=# select *from country;
 country_id |  country_name
------------+----------------
 CY1        | SPAIN
 CY2        | ENGLAND
 CY3        | UNITED KINGDOM
 CY4        | GERMANY
(4 rows)
```

5.2.2 VENUE

INSERT INTO VENUE VALUES ('V1','ALLIANZ ARENA','MUNICH','75000','CY4');
INSERT INTO VENUE VALUES ('V2','ETIHAD','MANCHESTER','55097','CY2');

```
postgres=# select *from VENUE;
 venue_id |  venue_name   | venue_city | venue_capacity | country_id
----------+---------------+------------+----------------+-----------
 V1       | ALLIANZ ARENA | MUNICH     |          75000 | CY4
 V2       | ETIHAD        | MANCHESTER |          55097 | CY2
(2 rows)
```

5.2.3 REFREE

INSERT INTO REFREE VALUES ('R1','DANNY MAKKELIE','CY1');
INSERT INTO REFREE VALUES ('R2','ANHONY TAYLOR','CY2');
INSERT INTO REFREE VALUES ('R3','HOWARD WEBB','CY3');
INSERT INTO REFREE VALUES ('R4','FELIX BRYEN','CY4');

```
postgres=# select *from REFREE;
 ref_id |    ref_name    | country_id
--------+----------------+------------
 R1     | DANNY MAKKELIE | CY1
 R2     | ANTHONY TAYLOR | CY2
 R3     | HOWARD WEBB    | CY3
 R4     | FELIX BRYEN    | CY4
(4 rows)
```

5.2.4 MATCH

INSERT INTO MATCH VALUES ('M1','BARC VS BAY MUN','2022-08-14 12:30:00','V1','CY4');
INSERT INTO MATCH VALUES ('M2','MANCITY VS LIVERPOOL','2022-03-04 20:30:00','V2','CY2');

```
postgres=# select * from match;
 match_id |     match_name      |     match_time      | venue_id | country_id
----------+---------------------+---------------------+----------+------------
 M1       | BARC VS BAY MUN     | 2022-08-14 12:30:00 | V1       | CY4
 M2       | MANCITY VS LIVERPOOL| 2022-03-04 20:30:00 | V2       | CY2
(2 rows)
```

5.2.5 CLUB

INSERT INTO CLUB VALUES ('CB1','BARCELONA','CY1','A','1');
INSERT INTO CLUB VALUES ('CB2','LIVERPOOL','CY3','A','2');
INSERT INTO CLUB VALUES ('CB3','MANCITY','CY2','A','4');
INSERT INTO CLUB VALUES ('CB4','BAYERN MUNICH','CY4','A','3');
INSERT INTO CLUB VALUES ('CB5','CHELESA','CY2','5');

```
postgres=# select * from club;
 club_id |   club_name   | country_id | club_status | club_rank
---------+---------------+------------+-------------+-----------
 CB1     | BARCELONA     | CY1        | A           |         1
 CB2     | LIVERPOOL     | CY3        | A           |         2
 CB4     | BAYERN MUNICH | CY4        | A           |         3
 CB3     | MANCITY       | CY2        | A           |         4
 CB5     | CHELESA       | CY2        | NA          |         5
(5 rows)
```

5.2.6 COACH

INSERT INTO COACH VALUES ('CO1','XAVI HERNANDEZ','CB1');
INSERT INTO COACH VALUES ('CO2','JURGEN KLOPP','CB2');
INSERT INTO COACH VALUES ('CO3','PEP GUARDIOLA','CB3');
INSERT INTO COACH VALUES ('CO4','HANSI FLICK','CB4');

```
postgres=# select * from coach;
 coach_id |   coach_name   | club_id
----------+----------------+---------
 CO1      | XAVI HERNANDEZ | CB1
 CO2      | JURGEN KLOPP   | CB2
 CO3      | PEP GUARDIOLA  | CB3
 CO4      | HANSI FLICK    | CB4
(4 rows)
```

5.2.7 PLAYERS

INSERT INTO PLAYERS
VALUES ('P01','LIONEL MESSI','FW','ARGENTINA','30','25','CB1','CY1');
INSERT INTO PLAYERS
VALUES ('P02','YOYA TOURE','MF','IVERY COAST','42','27','CB3','CY2');
INSERT INTO PLAYERS
VALUES ('P03','JAVI MARTINEZ','DF','SPAIN','08','24','CB4','CY4');
INSERT INTO PLAYERS
VALUES ('P04','ANDRES INIESTA','MF','SPAIN','08','28','CB1','CY1');
INSERT INTO PLAYERS
VALUES ('P05','PHIL FODEN','MF','ENGLAND','47','30','CB3','CY2');
INSERT INTO PLAYERS
VALUES ('P06','TONI KROOS','MF','GERMANY','09','22','CB4','CY4');
INSERT INTO PLAYERS
VALUES ('P07','SERGIO BUSQUETS','DF','SPAIN','19','24','CB1','CY1');
INSERT INTO PLAYERS
VALUES ('P08','RODRI','MF','SPAIN','16','25','CB3','CY2');
INSERT INTO PLAYERS
VALUES ('P09','MANUEL NEUER','GK','GERMANY','01','26','CB4','CY4');
INSERT INTO PLAYERS
VALUES ('P10','SERGIO AQUERO','FW','ARGENTINA','10','24','CB3','CY2');
INSERT INTO PLAYERS
VALUES ('P11','ARJEN ROBBERN','FW','NETHERLANDS','10','28','CB4','CY4');
INSERT INTO PLAYERS
VALUES ('P12','CARLOS TEVEZ','FW','ARGENTINA','32','28','CB3','CY2');
INSERT INTO PLAYERS
VALUES ('P13','NABY KEITA','MF','GUINEA','17','25','CB2','CY3');
INSERT INTO PLAYERS
VALUES ('P14','ARNAU TENAS','GK','SPAIN','01','21','CB1','CY1');
INSERT INTO PLAYERS
VALUES ('P15','KYLE WALKER','DF','ENGLAND','02','29','CB3','CY2');

```sql
INSERT INTO PLAYERS
VALUES ('P16','NIKLAS SULE','DF','GERMANY','15','22','CB4','CY4');
INSERT INTO PLAYERS
VALUES ('P17','JOEL MATIP','DF','ENGLAND','32','31','CB2','CY3');
INSERT INTO PLAYERS
VALUES ('P18','VINCY KOMPANY','DF','BELGIUM','04','26','CB3','CY2');
INSERT INTO PLAYERS
VALUES ('P19','MARIO GOMEZ','FW','GERMANY','33','27','CB4','CY4');
INSERT INTO PLAYERS
VALUES ('P20','JORDI ALBA','MF','SPAIN','18','23','CB1','CY1');
INSERT INTO PLAYERS
VALUES ('P21','JOE HART','GK','ENGLAND','01','28','CB3','CY2');
INSERT INTO PLAYERS
VALUES ('P22','WILLY SAGNOL','DF','FRANCE','19','30','CB4','CY4');
INSERT INTO PLAYERS
VALUES ('P23','FRANCK RIBERY','MF','FRANCE','07','29','CB4','CY4');
INSERT INTO PLAYERS
VALUES ('P24','GERARD PIQUE','DF','SPAIN','23','25','CB1','CY1');
INSERT INTO PLAYERS
VALUES ('P25','SADIO MANE','FW','SEUEGAL','10','26','CB2','CY3');
INSERT INTO PLAYERS
VALUES ('P26','BASTIAN SHAWN','MF','GERMANY','31','28','CB4','CY4');
INSERT INTO PLAYERS
VALUES ('P27','DIOGO JOTA','FW','PORTUGAL','20','25','CB2','CY3');
INSERT INTO PLAYERS
VALUES ('P28','DEJAN LOUREN','DF','ENGLAND','06','30','CB2','CY3');
INSERT INTO PLAYERS
VALUES ('P29','CARLES PUYOL','DF','SPAIN','05','34','CB1','CY1');
INSERT INTO PLAYERS
VALUES ('P30','JOES GOMEZ','MF','ENGLAND','02','29','CB2','CY3');
INSERT INTO PLAYERS
VALUES ('P31',' ROB JONES','DF','ENGLAND','05','30','CB2','CY3');
INSERT INTO PLAYERS
VALUES ('P32',' GLEN JOHNSON','DF','ENGLAND','08','31','CB2','CY3');
INSERT INTO PLAYERS
VALUES ('P33',' JAVIER MASCH','MF','ARGENTINA','20','28','CB1','CY1');
INSERT INTO PLAYERS
VALUES ('P34','PHILLIP LAHM','DF','GERMANY','21','29','CB4','CY4');
INSERT INTO PLAYERS
VALUES('P35','FABINHO','MF','BRAZIL','03','30','CB2','CY3');
INSERT INTO PLAYERS
VALUES('P36','ALLISON','GK','BRAZIL','01','27','CB2','CY3');
INSERT INTO PLAYERS
VALUES ('P37','DAVID VILLA','FW','SPAIN','07','3','CB1','CY1');
INSERT INTO PLAYERS
VALUES ('P38','RUBEN DIAS','DF','PORTUGAL','03','24','CB3','CY2');
INSERT INTO PLAYERS
VALUES ('P39','LUIS SUAREZ','FW','ENGLAND','09','25','CB2','CY3');
INSERT INTO PLAYERS
VALUES ('P40','DANI ALVES','DF','BRAZIL','33','29','CB1','CY1');
```

INSERT INTO PLAYERS
VALUES ('P41','THOMAS MULLER','FW','GERMANY','25','23','CB4','CY4');
INSERT INTO PLAYERS
VALUES ('P42','SAMIR NASRI','MF','FRANCE','22','25','CB3','CY2');
INSERT INTO PLAYERS
VALUES ('P43','MARIO BALOTELLI','FW','ITALY','45','22','CB3','CY2');
INSERT INTO PLAYERS
VALUES ('P44','PEDRO','FW','SPAIN','09','25','CB1','CY1');

```
postgres=# select *from players;
 player_id |    player_name    | player_position | player_nationality | player_jersey_no | player_age | club_id | country_id
-----------+-------------------+-----------------+--------------------+------------------+------------+---------+------------
 P03       | JAVI MARTINEZ     | DF              | SPAIN              |                8 |         24 | CB4     | CY4
 P04       | ANDRES INIESTA    | MF              | SPAIN              |                8 |         28 | CB1     | CY1
 P05       | PHIL FODEN        | MF              | ENGLAND            |               47 |         30 | CB3     | CY2
 P06       | TONI KROOS        | MF              | GERMANY            |                9 |         22 | CB4     | CY4
 P01       | LIONEL MESSI      | FW              | ARGENTINA          |               30 |         25 | CB1     | CY1
 P02       | YOYA TOURE        | MF              | IVERY COAST        |               42 |         27 | CB3     | CY2
 P07       | SERGIO BUSQUETS   | DF              | SPAIN              |               19 |         24 | CB1     | CY1
 P08       | RODRI             | MF              | SPAIN              |               16 |         25 | CB3     | CY2
 P09       | MANUEL NEUER      | GK              | GERMANY            |                1 |         26 | CB4     | CY4
 P10       | SERGIO AQUERO     | FW              | ARGENTINA          |               10 |         24 | CB3     | CY2
 P11       | ARJEN ROBBERN     | FW              | NETHERLANDS        |               10 |         28 | CB4     | CY4
 P12       | CARLOS TEVEZ      | FW              | ARGENTINA          |               32 |         28 | CB3     | CY2
 P13       | NABY KEITA        | MF              | GUINEA             |               17 |         25 | CB2     | CY3
 P14       | ARNAU TENAS       | GK              | SPAIN              |                1 |         21 | CB1     | CY1
 P15       | KYLE WALKER       | DF              | ENGLAND            |                2 |         29 | CB3     | CY2
 P16       | NIKLAS SULE       | DF              | GERMANY            |               15 |         22 | CB4     | CY4
 P17       | JOEL MATIP        | DF              | ENGLAND            |               32 |         31 | CB2     | CY3
 P18       | VINCY KOMPANY     | DF              | BELGIUM            |                4 |         26 | CB3     | CY2
 P19       | MARIO GOMEZ       | FW              | GERMANY            |               33 |         27 | CB4     | CY4
 P20       | JORDI ALBA        | MF              | SPAIN              |               18 |         23 | CB1     | CY1
 P21       | JOE HART          | GK              | ENGLAND            |                1 |         28 | CB3     | CY2
 P22       | WILLY SAGNOL      | DF              | FRANCE             |               19 |         30 | CB4     | CY4
 P23       | FRANCK RIBERY     | MF              | FRANCE             |                7 |         29 | CB4     | CY4
 P24       | GERARD PIQUE      | DF              | SPAIN              |               23 |         25 | CB1     | CY1
 P25       | SADIO MANE        | FW              | SEUEGAL            |               10 |         26 | CB2     | CY3
```

```
 P26       | BASTIAN SHAWN     | MF              | GERMANY            |               31 |         28 | CB4     | CY4
 P27       | DIOGO JOTA        | FW              | PORTUGAL           |               20 |         25 | CB2     | CY3
 P28       | DEJAN LOUREN      | DF              | ENGLAND            |                6 |         30 | CB2     | CY3
 P29       | CARLES PUYOL      | DF              | SPAIN              |                5 |         34 | CB1     | CY1
 P30       | JOES GOMEZ        | MF              | ENGLAND            |                2 |         29 | CB2     | CY3
 P31       | ROB JONES         | DF              | ENGLAND            |                5 |         30 | CB2     | CY3
 P32       | GLEN JOHNSON      | DF              | ENGLAND            |                8 |         31 | CB2     | CY3
 P33       | JAVIER MASCH      | MF              | ARGENTINA          |               20 |         28 | CB1     | CY1
 P34       | PHILLIP LAHM      | DF              | GERMANY            |               21 |         29 | CB4     | CY4
 P35       | FABINHO           | MF              | BRAZIL             |                3 |         30 | CB2     | CY3
 P36       | ALLISON           | GK              | BRAZIL             |                1 |         27 | CB2     | CY3
 P37       | DAVID VILLA       | FW              | SPAIN              |                7 |         31 | CB1     | CY1
 P38       | RUBEN DIAS        | DF              | PORTUGAL           |                3 |         24 | CB2     | CY2
 P39       | LUIS SUAREZ       | FW              | ENGLAND            |                9 |         25 | CB2     | CY3
 P40       | DANI ALVES        | DF              | BRAZIL             |               33 |         29 | CB1     | CY1
 P41       | THOMAS MULLER     | FW              | GERMANY            |               25 |         23 | CB4     | CY4
 P42       | SAMIR NASRI       | MF              | FRANCE             |               22 |         25 | CB3     | CY2
 P43       | MARIO BALOTELLI   | FW              | ITALY              |               45 |         22 | CB3     | CY2
 P44       | PEDRO             | FW              | SPAIN              |                9 |         25 | CB1     | CY1
(44 rows)
```

5.2.8 SPONSORS

INSERT INTO SPONSORS VALUES ('S1','NIKE','CB1');
INSERT INTO SPONSORS VALUES ('S2','SPOTIFY','CB1');
INSERT INTO SPONSORS VALUES ('S3','BEKO','CB1');
INSERT INTO SPONSORS VALUES ('S4','EA SPORT','CB2');
INSERT INTO SPONSORS VALUES ('S5','NIKE','CB2');
INSERT INTO SPONSORS VALUES ('S6','SONOS','CB2');
INSERT INTO SPONSORS VALUES ('S7','CARLSBERG','CB2');
INSERT INTO SPONSORS VALUES ('S8','PUMA','CB3');
INSERT INTO SPONSORS VALUES ('S9','MIDEA','CB3');
INSERT INTO SPONSORS VALUES ('S10','NISSAN','CB3');

INSERT INTO SPONSORS VALUES ('S11','ETIHAD AIRWAYS','CB3');
INSERT INTO SPONSORS VALUES ('S12','ADIDAS','CB4');
INSERT INTO SPONSORS VALUES ('S13','AUDI AG','CB4');
INSERT INTO SPONSORS VALUES ('S14','TELEKOM','CB4');
INSERT INTO SPONSORS VALUES ('S15','QATAR AIRWAYS','CB4');
INSERT INTO SPONSORS VALUES ('S16','RAKUTEN','CB1');

```
postgres=# select * from sponsors;
 sponsor_id |  sponsor_name  | club_id
------------+----------------+---------
 S1         | NIKE           | CB1
 S2         | SPOTIFY        | CB1
 S3         | BEKO           | CB1
 S4         | EA SPORTS      | CB2
 S5         | NIKE           | CB2
 S6         | SONOS          | CB2
 S7         | CARLSBERG      | CB2
 S8         | PUMA           | CB3
 S9         | MIDEA          | CB3
 S10        | NISSAN         | CB3
 S11        | ETIHAD AIRWAYS | CB3
 S12        | ADIDAS         | CB4
 S13        | AUDI AG        | CB4
 S14        | TELEKOM        | CB4
 S15        | QATAR AIRWAYS  | CB4
 S16        | RAKUTEN        | CB1
(16 rows)
```

5.2.9 CAPTAIN

INSERT INTO CAPTAIN VALUES ('CP1','LIONEL MESSI','P01','CB1');
INSERT INTO CAPTAIN VALUES ('CP2',' NABY KEITA','P02','CB2');
INSERT INTO CAPTAIN VALUES ('CP3','KYLE WALKER','P03','CB3');
INSERT INTO CAPTAIN VALUES ('CP4','THOMAS MULLER','P04','CB4');

```
postgres=# select * from captain;
 captain_id | captain_name  | player_id | club_id
------------+---------------+-----------+---------
 CP1        | LIONEL MESSI  | P01       | CB1
 CP2        | NABY KEITA    | P13       | CB2
 CP3        | KYLE WALKER   | P15       | CB3
 CP4        | THOMAS MULLER | P41       | CB4
(4 rows)
```

5.2.10 GOALS

INSERT INTO GOALS VALUES ('G01','TOUCHDOWN','P15','M2','CB3','6');
INSERT INTO GOALS VALUES ('G02','SAFETY','P13','M2','CB2','2');
INSERT INTO GOALS VALUES ('G03','FIELD GOAL','P39','M2','CB2','3');
INSERT INTO GOALS VALUES ('G04','FIELD GOAL','P01','M1','CB1','3');
INSERT INTO GOALS VALUES ('G05','SAFETY','P01','M1','CB1','2');

INSERT INTO GOALS VALUES ('G06','TOUCHDOWN','P01','M1','CB1','6');
INSERT INTO GOALS VALUES ('G07','SAFETY','P19','M1','CB4','2');
INSERT INTO GOALS VALUES ('G08','SAFETY','P06','M1','CB4','2');
INSERT INTO GOALS VALUES ('G09','FIELD GOAL','P02','M2','CB3','3');
INSERT INTO GOALS VALUES ('G10','SAFETY','P02','M2','CB3','2');
INSERT INTO GOALS VALUES ('G11','SAFETY','P04','M1','CB1','2');

```
postgres=# select * from goals;
 goal_id | goal_type  | player_id | match_id | club_id | goal_points
---------+------------+-----------+----------+---------+-------------
 G01     | TOUCHDOWN  | P15       | M2       | CB3     |           6
 G02     | SAFETY     | P13       | M2       | CB2     |           2
 G03     | FIELD GOAL | P39       | M2       | CB2     |           3
 G04     | FIELD GOAL | P01       | M1       | CB1     |           3
 G05     | SAFETY     | P01       | M1       | CB1     |           2
 G06     | TOUCHDOWN  | P01       | M1       | CB1     |           6
 G07     | SAFETY     | P19       | M1       | CB4     |           2
 G08     | SAFETY     | P06       | M1       | CB4     |           2
 G09     | FIELD GOAL | P02       | M2       | CB3     |           3
 G10     | SAFETY     | P02       | M2       | CB3     |           2
 G11     | SAFETY     | P04       | M1       | CB1     |           2
(11 rows)
```

5.2.11 RESULT

INSERT INTO RESULT VALUES ('RT1','M1','BARCELONA','BAYERN MUNICH');
INSERT INTO RESULT VALUES ('RT2','M2','LIVERPOOL','MANCITY');

```
postgres=# select * from result;
 result_id | match_id | won_club  |   lost_club
-----------+----------+-----------+---------------
 RT1       | M1       | BARCELONA | BAYERN MUNICH
 RT2       | M2       | LIVERPOOL | MANCITY
(2 rows)
```

5.2.12 PENALTY

INSERT INTO PENALTY VALUES ('PT1','2','P17','M2','CB2');
INSERT INTO PENALTY VALUES ('PT2','1','P33','M1','CB1');
INSERT INTO PENALTY VALUES ('PT3','3','P42','M2','CB3');
INSERT INTO PENALTY VALUES ('PT4','2','P07','M1','CB1');
INSERT INTO PENALTY VALUES ('PT5','4','P11','M1','CB4');
INSERT INTO PENALTY VALUES ('PT6','1','P39','M2','CB2');

```
postgres=# select * from penalty;
 penalty_id | penalty_no | player_id | match_id | club_id
------------+------------+-----------+----------+---------
 PT1        |          2 | P17       | M2       | CB2
 PT2        |          1 | P33       | M1       | CB1
 PT3        |          3 | P42       | M2       | CB3
 PT4        |          2 | P07       | M1       | CB1
 PT5        |          4 | P11       | M1       | CB4
 PT6        |          1 | P39       | M2       | CB2
(6 rows)
```

6. QUERIES

6.1 QUERIES USING BASIC DBMS CONSTRUCTS

6.1.1 Display club information having name starting with B.
select *from club where club_name like 'B%';

```
postgres=# select *from club where club_name like 'B%';
 club_id |   club_name   | country_id | club_status | club_rank
---------+---------------+------------+-------------+-----------
 CB1     | BARCELONA     | CY1        | A           |         1
 CB4     | BAYERN MUNICH | CY4        | A           |         3
(2 rows)
```

6.1.2 Display player info who lives in Spain.
select *from players where player_nationality='SPAIN';

```
postgres=# select *from players where player_nationality='SPAIN';
 player_id |  player_name     | player_position | player_nationality | player_jersey_no | player_age | club_id | country_id
-----------+------------------+-----------------+--------------------+------------------+------------+---------+-----------
 P03       | JAVI MARTINEZ    | DF              | SPAIN              |                8 |         24 | CB4     | CY4
 P04       | ANDRES INIESTA   | MF              | SPAIN              |                8 |         28 | CB1     | CY1
 P07       | SERGIO BUSQUETS  | DF              | SPAIN              |               19 |         24 | CB1     | CY1
 P08       | RODRI            | MF              | SPAIN              |               16 |         25 | CB3     | CY2
 P14       | ARNAU TENAS      | GK              | SPAIN              |                1 |         21 | CB1     | CY1
 P20       | JORDI ALBA       | MF              | SPAIN              |               18 |         23 | CB1     | CY1
 P24       | GERARD PIQUE     | DF              | SPAIN              |               23 |         25 | CB1     | CY1
 P29       | CARLES PUYOL     | DF              | SPAIN              |                5 |         34 | CB1     | CY1
 P37       | DAVID VILLA      | FW              | SPAIN              |                7 |         31 | CB1     | CY1
 P44       | PEDRO            | FW              | SPAIN              |                9 |         25 | CB1     | CY1
(10 rows)
```

6.1.3 Display no. of goals scored and its type.
select goal_type,count(*) from goals group by goal_type;

```
postgres=# select goal_type,count(*) from goals group by goal_type;
 goal_type  | count
------------+-------
 TOUCHDOWN  |     2
 SAFETY     |     6
 FIELD GOAL |     3
(3 rows)
```

6.1.4 Display sponsors info and sort by name.

select *from sponsors order by sponsor_name asc;

```
postgres=# select *from sponsors order by sponsor_name asc;
 sponsor_id |  sponsor_name  | club_id
------------+----------------+---------
 S12        | ADIDAS         | CB4
 S13        | AUDI AG        | CB4
 S3         | BEKO           | CB1
 S7         | CARLSBERG      | CB2
 S4         | EA SPORTS      | CB2
 S11        | ETIHAD AIRWAYS | CB3
 S9         | MIDEA          | CB3
 S1         | NIKE           | CB1
 S5         | NIKE           | CB2
 S10        | NISSAN         | CB3
 S8         | PUMA           | CB3
 S15        | QATAR AIRWAYS  | CB4
 S16        | RAKUTEN        | CB1
 S6         | SONOS          | CB2
 S2         | SPOTIFY        | CB1
 S14        | TELEKOM        | CB4
(16 rows)
```

6.1.5 Display total penalties in each match.

select match_id,sum(penalty_no) from penalty group by match_id;

```
postgres=# select match_id,sum(penalty_no) from penalty group by match_id;
 match_id | sum
----------+-----
 M1       |   7
 M2       |   6
(2 rows)
```

6.2 QUERIES USING JOINS AND SUBQUERIES

6.2.1 Find details of matches organized in GERMANY in the year 2022.

select
match.match_id,match_name,match.match_time,match.venue_id,match.country_id,country.country_name
from match inner join country on match.country_id=country.country_id where extract(year from match_time)=2022 and country_name='GERMANY';

```
postgres=# select match.match_id,match_name,match.match_time,match.venue_id,match.country_id,country.country_name from m
atch inner join country on match.country_id=country.country_id where extract(year from match_time)=2022 and country_name
='GERMANY';
 match_id |   match_name   |     match_time      | venue_id | country_id | country_name
----------+----------------+---------------------+----------+------------+--------------
 M1       | BARC VS BAY MUN | 2022-08-14 12:30:00 | V1       | CY4        | GERMANY
(1 row)
```

6.2.2 Which football clubs are active currently in England.

select
club.club_id,club.club_name,club.country_id,club.club_status,country.country_name
from club inner join country on country.country_id=club.country_id where country_name='ENGLAND' and club_status='A';

```
postgres=# select club.club_id,club.club_name,club.country_id,club.club_status,country.country_name from club inner join country on
 country.country_id=club.country_id where country_name='ENGLAND' and club_status='A';
 club_id | club_name | country_id | club_status | country_name
---------+-----------+------------+-------------+--------------
 CB3     | MANCITY   | CY2        | A           | ENGLAND
(1 row)
```

6.2.3 Display match details along with results having 'V' as the third character.

select
match.match_id,match.match_name,match.match_time,result.result_id,result.won_club,result.lost_club from match inner join result on match.match_id=result.match_id where won_club like '__V%';

```
postgres=# select match.match_id,match.match_name,match.match_time,result.result_id,result.won_club,result.lost_club from match
 inner join result on match.match_id=result.match_id where won_club like '_V%';
 match_id |     match_name     |     match_time      | result_id | won_club | lost_club
----------+--------------------+---------------------+-----------+----------+-----------
 M2       | MANCITY VS LIVERPOOL | 2022-03-04 20:30:00 | RT2       | LIVERPOOL | MANCITY
(1 row)
```

6.2.4 Display country and venue information having maximum venue capacity.

select country.country_id,country_name,venue.venue_name,venue.venue_city,venue_capacity from country inner join venue on country.country_id=venue.country_id where venue_capacity=(select max(venue_capacity)from venue);

```
postgres=# select country.country_id,country_name,venue.venue_name,venue.venue_city,venue_capacity from country inner join venue
 on country.country_id=venue.country_id where venue_capacity=(select max(venue_capacity)from venue);
 country_id | country_name |  venue_name  | venue_city | venue_capacity
------------+--------------+--------------+------------+----------------
 CY4        | GERMANY      | ALLIANZ ARENA | MUNICH     |          75000
(1 row)
```

 6.2.5 Give details of player along with club and country information who made maximum goals.

select players.player_id,players.player_name,players.player_position,players.player_nationality,players.player_jersey_no,players.player_age,players.country_id,players.club_id,country.country_name,club.club_name,goals.goal_id,goals.goal_type,goals.goal_points,goals.match_id from club inner join country on country.country_id=club.country_id inner join players on players.club_id=club.club_id inner join goals on players.player_id=goals.player_id where goal_points=(select max(goal_points) from goals) limit 1;

```
postgres=# select players.player_id,players.player_name,players.player_position,players.player_nationality,players.player_jersey_no,players.player_age,players.country_id,players.club_id,country.country_name,club
als.goal_type,goals.goal_points,goals.match_id from club inner join country on country.country_id=club.country_id inner join players on players.club_id=club.club_id inner join goals on players.player_id=goals.p
=(select max(goal_points) from goals) limit 1;
 player_id | player_name | player_position | player_nationality | player_jersey_no | player_age | country_id | club_id | country_name | club_name | goal_id | goal_type | goal_points | match_id
-----------+-------------+-----------------+--------------------+------------------+------------+------------+---------+--------------+-----------+---------+-----------+-------------+----------
 P01       | LIONEL MESSI | FW             | ARGENTINA          |               30 |         25 | CY1        | CB1     | SPAIN        | BARCELONA | G06     | TOUCHDOWN |           6 | M1
(1 row)
```

6.3 PL/SQL

Create a view that contains two columns coach name and the name of the club they belong.

create view coach__club as
select c.coach_name, clb.club_name from
coach c inner join club clb
on c.club_id=clb.club_id;

```
postgres=# create view coach__club as
postgres-# select c.coach_name, clb.club_name from
postgres-# coach c inner join club clb
postgres-# on c.club_id=clb.club_id;
CREATE VIEW
postgres=#
postgres=# select * from coach__club;
   coach_name    |    club_name
----------------+----------------
 XAVI HERNANDEZ | BARCELONA
 JURGEN KLOPP   | LIVERPOOL
 PEP GUARDIOLA  | MANCITY
 HANSI FLICK    | BAYERN MUNICH
(4 rows)


postgres=#
```

6.4 QUERIES USING USER DEFINED FUNCTIONS

Write a function that returns accumulate goal points in a given match.

```
create or replace function getGoalPointsByMatchid(matchid varchar)
returns integer as $$
declare
        total_goal_points integer;
begin
        select sum(goal_points) into total_goal_points from goals where
match_id=matchid;
        return total_goal_points;
end;
$$
language plpgsql;
```

- select getGoalPointsByMatchid('M2');

```
postgres=# select getGoalPointsByMatchid('M2');
 getgoalpointsbymatchid
----------------------
                    16
(1 row)
```

6.5 QUERIES USING TRIGGERS

6.5.1 Players can only be added to the players table if their age is greater than 18. Create a trigger to validate their age before adding them to the table.

```
create function validateAge()
returns trigger as $$
begin
        if  NEW.player_age <= 18 then
                raise exception 'Player age cannot be less than 18';
        end if;
        return NEW;
end;
$$
language plpgsql;

create trigger age_trigger
before insert or update
on players
for each row
execute procedure validateAge();
```

```
postgres=# insert into players values ('P50', 'Name', 'FW', 'FRANCE', 21, 12, 'CB3', 'CY2');
ERROR:  Player age cannot be less than 18
CONTEXT:  PL/pgSQL function validateage() line 4 at RAISE
postgres=#
```

6.5.2 If a new score is added or updated from the goals table then check whether score is negative.If negative the operation should be declined.

```
create function checkscore() returns trigger as $$
BEGIN
if NEW.goal_points<0 then
raise exception 'negative value not allowed';
end if;
return NEW;
END;
$$
LANGUAGE plpgsql;

create trigger checkscore1
BEFORE INSERT OR UPDATE
ON goals
FOR EACH ROW
EXECUTE PROCEDURE checkscore();
```
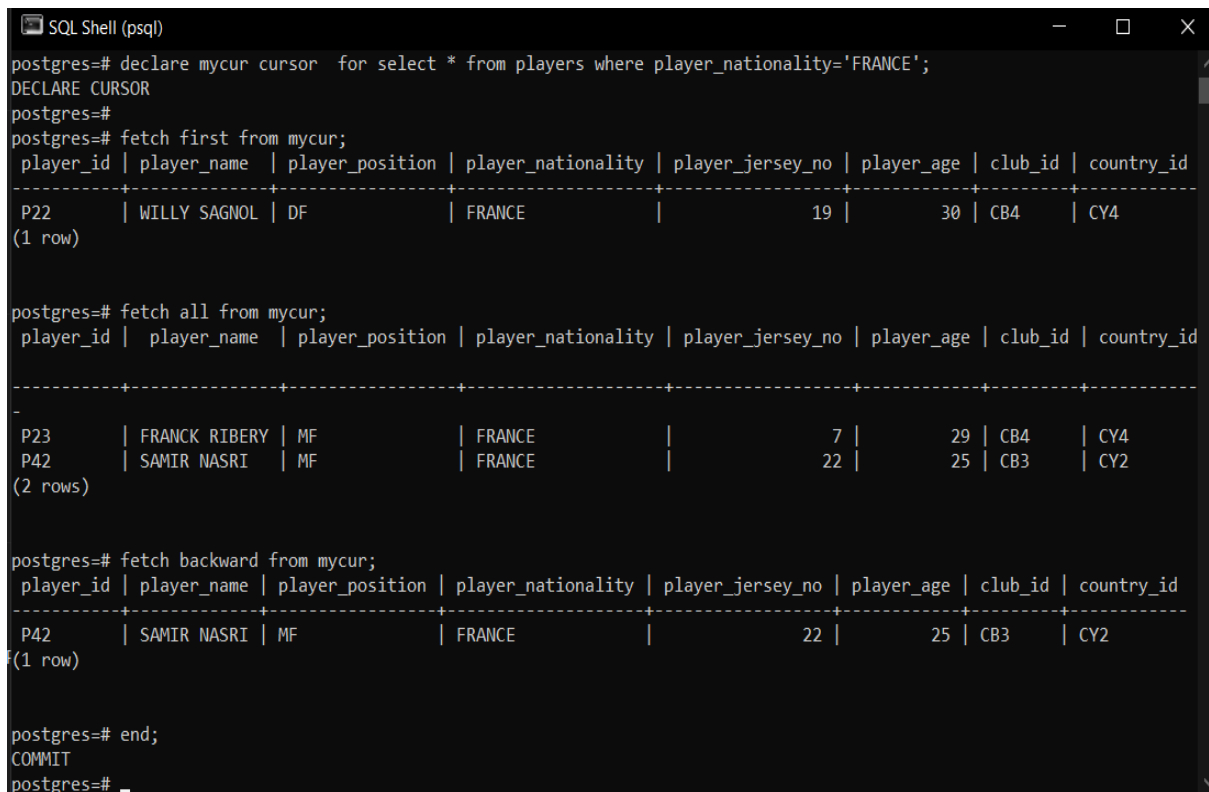
- insert into goals values ('G12','FIELD GOAL','P17','M2','CB2', -3);

```
postgres=# insert into goals values('G12','FIELD GOAL','P17','M2','CB2',-3);
ERROR:  negative value not allowed
CONTEXT:  PL/pgSQL function checkscore() line 4 at RAISE
postgres=#
```

6.6 CURSOR

Create a cursor which traverses through players table where the nationality of players if FRANCE.

begin;
declare mycur cursor for select * from players where player_nationality='FRANCE';
fetch first from mycur;
fetch all from mycur;
fetch backward from mycur;
end;

```
SQL Shell (psql)                                                        —    □    ×

postgres=# declare mycur cursor  for select * from players where player_nationality='FRANCE';
DECLARE CURSOR
postgres=#
postgres=# fetch first from mycur;
 player_id | player_name | player_position | player_nationality | player_jersey_no | player_age | club_id | country_id
-----------+-------------+-----------------+--------------------+------------------+------------+---------+------------
 P22       | WILLY SAGNOL | DF             | FRANCE             |               19 |         30 | CB4     | CY4
(1 row)


postgres=# fetch all from mycur;
 player_id |  player_name  | player_position | player_nationality | player_jersey_no | player_age | club_id | country_id

-----------+-------------+-----------------+--------------------+------------------+------------+---------+------------
-
 P23       | FRANCK RIBERY | MF             | FRANCE             |                7 |         29 | CB4     | CY4
 P42       | SAMIR NASRI   | MF             | FRANCE             |               22 |         25 | CB3     | CY2
(2 rows)


postgres=# fetch backward from mycur;
 player_id | player_name | player_position | player_nationality | player_jersey_no | player_age | club_id | country_id
-----------+-------------+-----------------+--------------------+------------------+------------+---------+------------
 P42       | SAMIR NASRI | MF             | FRANCE             |               22 |         25 | CB3     | CY2
(1 row)


postgres=# end;
COMMIT
postgres=#
```

7. <u>FUTURE ENHANCEMENTS OF THE SYSTEM</u>

● We will design Front-end using React Framework and Develop Back-end in NodeJS.

● Methods and user data input will be a lot easy after the implementation of GUI.

● In the future, we can place the system on the cloud so the maintenance of the data can be reduced.

8. <u>BIBLIOGRAPHY</u>

- We created ER-Model on Erdplus and Relational Schema on Dbdiagram.

- ER-MODEL –
  https://erdplus.com//standalone

- RELATIONAL SCHEMA –
  https://dbdiagram.io/d/632c61e17b3d2034ff8dec72

- For the implementation of this project, we referred to materials shared by Prof.
  Archana N. Vyas and the following websites and books:

  Book:
  Database System Concepts
  -Henry F. Korth & A. Silberschatz 2nd Ed. McGraw-Hill 1991

  Websites:
- **https://www.w3schools.com/sql/sql_syntax.asp**
- **https://www.tutorialspoint.com/**
- **https://dev.mysql.com/doc/**
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