A Project Report On

Kabaddi League Management System

DEVELOPED BY
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CERTIFICATE

This is to certify that the project entitled “Kabbadi League Management system” is a bonafide report of the work carried out by:

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

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1. SYSTEM OVERVIEW

Data is the code word of the computer industry. Data refers to a collection of facts usually collected as a result of observation and experiment or processes within a computer system. This may consist of numbers, words or images or observations of a set of variables. Data are often viewed as a lowest level of abstraction from which information and knowledge are derived.

The project illustrates design and implementation of Pro kabaddi League Database Management System. Kabaddi has always been a sport of great fun in our country, played across different regions. But, with the inception of Pro kabaddi Legue(PKL) in 2014 ,it is no more a game of fun. It had become an international sport with viewership trolling in millions. This massive increase in the popularity of the sport with the inception of PKL also brings together a lot of challenges. As in, viewers want real time live updates of the matches currently going on. Also, audiences are interested in knowing the stats and rankings of players as well as the teams.

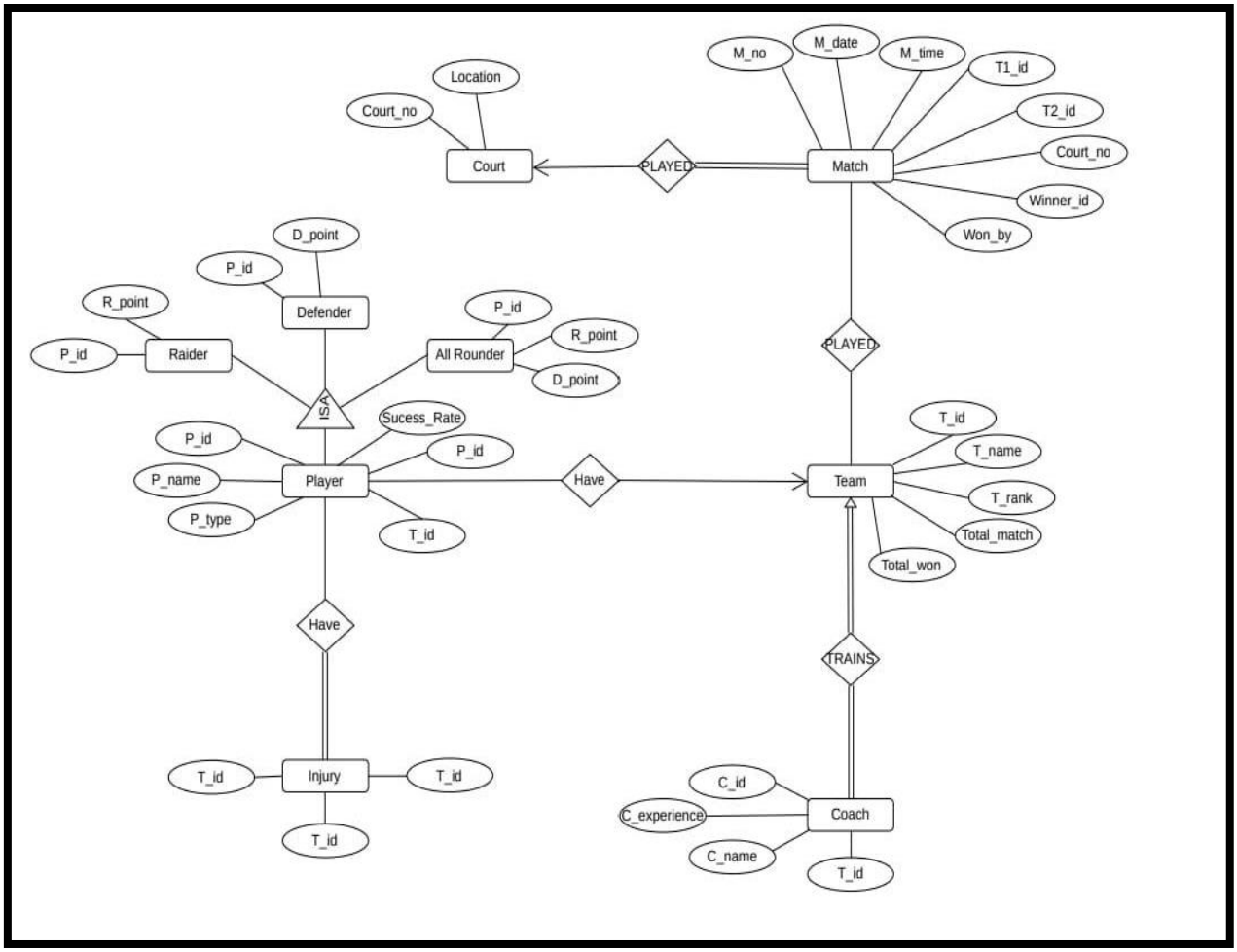
The current System is not efficient to cater to all these user requirements. Henceforth, this project aims to design an efficient System that will able to meet all the viewers requirements in accordance with the ever increasing. The system will be a web application which can provide real time updates to viewers about various ongoing and upcoming matches, player stats, Team rankings etc.

This application also intends to provide users/viewers with most simplified interface/UI where they can navigate easily to various tabs with a few clicks. The proposed system also provides easy and efficient management.

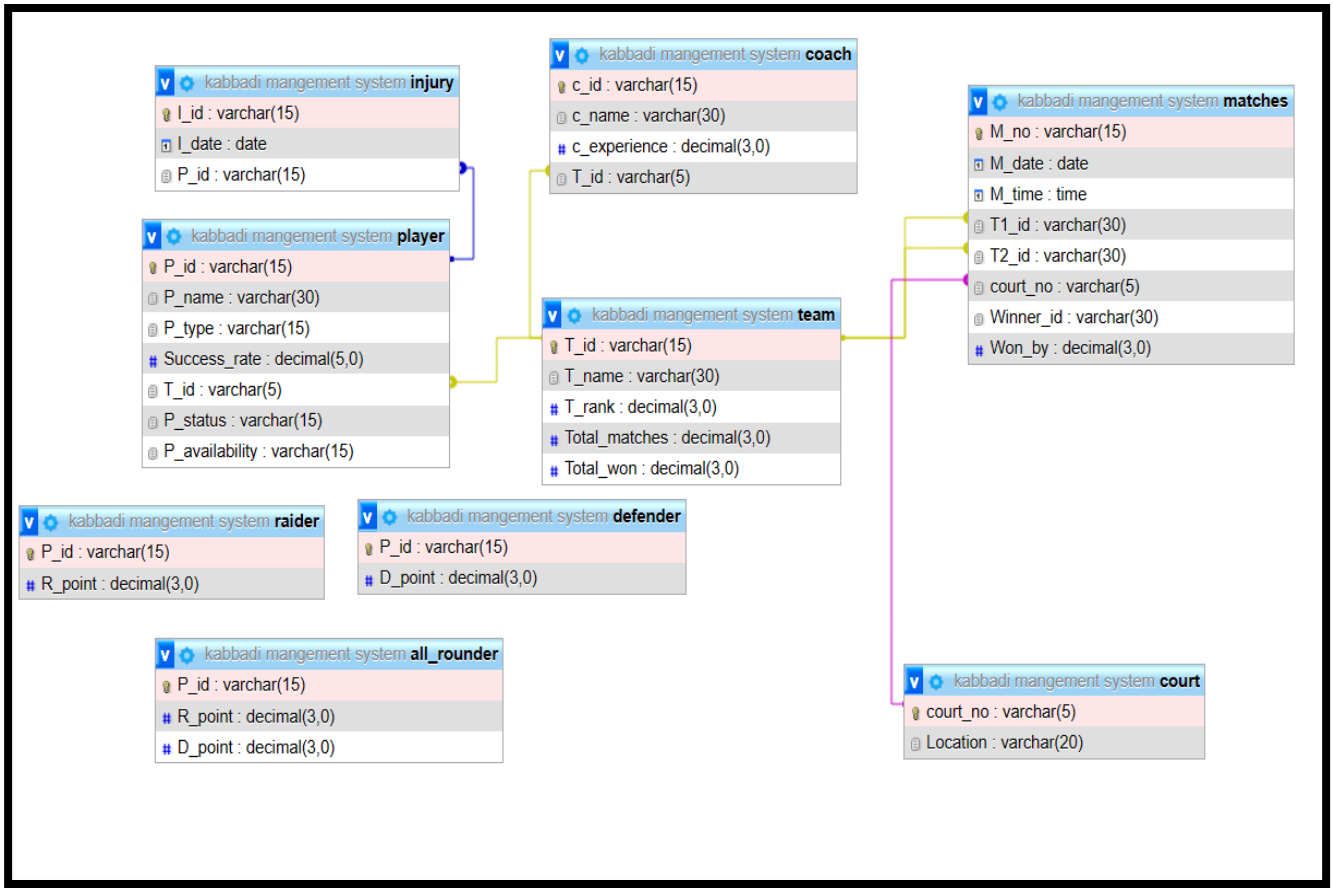
1.1 ADVANTAGES OF THE PROPOSED SYSTEM

1) Reduced redundancy of data stored throughout the database with the help of concepts like normalization which divides the data in the database to reduce repeated data.
2) Data consistency is maintained throughout the database with data being constantly added, updated and deleted.
3) Simple query language can be uses to easily fetch, insert, update and delete data from the database.
4) Reduced development time while building applications that use database features.

2. ENTITY RELATIONSHIP DIAGRAM



3. RELATIONAL SCHEMA



4. DATA DICTIONARY

4.1 Court

```
postgres=# \d court
                    Table "public.court"
  Column  |         Type          | Collation | Nullable | Default
----------+-----------------------+-----------+----------+---------
 court_no | character varying(5)  |           | not null |
 location | character varying(20) |           | not null |
Indexes:
    "court_pkey" PRIMARY KEY, btree (court_no)
Referenced by:
    TABLE "match" CONSTRAINT "match_court_no_fkey" FOREIGN KEY (court_no) REFERENCES court(court_no)
```

4.2 Team

```
postgres=# \d team;
                      Table "public.team"
    Column     |         Type          | Collation | Nullable | Default
---------------+-----------------------+-----------+----------+---------
 t_id          | character varying(15) |           | not null |
 t_name        | character varying(30) |           | not null |
 t_rank        | numeric(3,0)          |           |          |
 total_matches | numeric(3,0)          |           |          |
 total_won     | numeric(3,0)          |           |          |
Indexes:
    "team_pkey" PRIMARY KEY, btree (t_id)
Referenced by:
    TABLE "coach" CONSTRAINT "coach_t_id_fkey" FOREIGN KEY (t_id) REFERENCES team(t_id)
    TABLE "match" CONSTRAINT "match_t1_id_fkey" FOREIGN KEY (t1_id) REFERENCES team(t_id)
    TABLE "match" CONSTRAINT "match_t2_id_fkey" FOREIGN KEY (t2_id) REFERENCES team(t_id)
    TABLE "player" CONSTRAINT "player_t_id_fkey" FOREIGN KEY (t_id) REFERENCES team(t_id)
```

4.3 Match

```
postgres=# \d match;
                      Table "public.match"
  Column   |          Type          | Collation | Nullable | Default
-----------+------------------------+-----------+----------+---------
 m_no      | character varying(15)  |           | not null |
 m_date    | date                   |           | not null |
 m_time    | time without time zone |           | not null |
 t1_id     | character varying(30)  |           |          |
 t2_id     | character varying(30)  |           |          |
 court_no  | character varying(5)   |           | not null |
 winner_id | character varying(30)  |           |          |
 won_by    | numeric(3,0)           |           |          |
Indexes:
    "match_pkey" PRIMARY KEY, btree (m_no)
Foreign-key constraints:
    "match_court_no_fkey" FOREIGN KEY (court_no) REFERENCES court(court_no)
    "match_t1_id_fkey" FOREIGN KEY (t1_id) REFERENCES team(t_id)
    "match_t2_id_fkey" FOREIGN KEY (t2_id) REFERENCES team(t_id)
```

4.4 Player

```
postgres=# \d player;
                      Table "public.player"
    Column     |         Type          | Collation | Nullable | Default
---------------+-----------------------+-----------+----------+---------
 p_id          | character varying(15) |           | not null |
 p_name        | character varying(30) |           | not null |
 p_type        | character varying(15) |           |          |
 success_rate  | numeric(5,0)          |           |          |
 t_id          | character varying(5)  |           |          |
 p_status      | character varying(15) |           |          |
 p_availability | character varying(15) |           |          |
Indexes:
    "player_pkey" PRIMARY KEY, btree (p_id)
Foreign-key constraints:
    "player_t_id_fkey" FOREIGN KEY (t_id) REFERENCES team(t_id)
Referenced by:
    TABLE "injury" CONSTRAINT "injury_p_id_fkey" FOREIGN KEY (p_id) REFERENCES player(p_id)
Triggers:
    insert_player_type_trigger AFTER INSERT ON player FOR EACH ROW EXECUTE FUNCTION insert_player_type()
```

4.5 Raider

```
postgres=# \d raider;
                    Table "public.raider"
 Column  |         Type          | Collation | Nullable | Default
---------+-----------------------+-----------+----------+---------
 p_id    | character varying(15) |           | not null |
 r_point | numeric(3,0)          |           | not null |
Indexes:
    "raider_pkey" PRIMARY KEY, btree (p_id)
```

4.6 Defender

```
postgres=# \d defender;
                   Table "public.defender"
 Column  |         Type          | Collation | Nullable | Default
---------+-----------------------+-----------+----------+---------
 p_id    | character varying(15) |           | not null |
 d_point | numeric(3,0)          |           | not null |
Indexes:
    "defender_pkey" PRIMARY KEY, btree (p_id)
```

4.7 All Rounder

```
postgres=# \d all_rounder;
                   Table "public.all_rounder"
 Column  |         Type          | Collation | Nullable | Default
---------+-----------------------+-----------+----------+---------
 p_id    | character varying(15) |           | not null |
 r_point | numeric(3,0)          |           | not null |
 d_point | numeric(3,0)          |           | not null |
Indexes:
    "all_rounder_pkey" PRIMARY KEY, btree (p_id)
```

4.8 Coach

```
postgres=# \d coach;
                        Table "public.coach"
    Column    |         Type          | Collation | Nullable | Default
--------------+-----------------------+-----------+----------+---------
 c_id         | character varying(15) |           | not null |
 c_name       | character varying(30) |           | not null |
 c_experience | numeric(3,0)          |           |          |
 t_id         | character varying(5)  |           |          |
Indexes:
    "coach_pkey" PRIMARY KEY, btree (c_id)
Foreign-key constraints:
    "coach_t_id_fkey" FOREIGN KEY (t_id) REFERENCES team(t_id)
```

4.9 Injury

```
postgres=# \d injury;
                    Table "public.injury"
 Column |         Type          | Collation | Nullable | Default
--------+-----------------------+-----------+----------+---------
 i_id   | character varying(15) |           | not null |
 i_date | date                  |           | not null |
 p_id   | character varying(15) |           |          |
Indexes:
    "injury_pkey" PRIMARY KEY, btree (i_id)
Foreign-key constraints:
    "injury_p_id_fkey" FOREIGN KEY (p_id) REFERENCES player(p_id)
Triggers:
    injury_update AFTER INSERT ON injury FOR EACH ROW EXECUTE FUNCTION update_player_status()
```

5. DATA IMPLEMENTATION

A) DATA CREATION

5.1.1 Court

```
CREATE TABLE Court
(
        court_no varchar(5) primary key not null,
        Location varchar(20) not null
);
```

5.1.2 Team

```
CREATE TABLE Team
(
        T_id varchar(15) primary key not null,
        T_name varchar(30) not null,
        T_rank numeric(3),Total_matches numeric(3),
        Total_won  numeric(3)
);
```

5.1.3 Match

```
CREATE TABLE Match
(
        M_no varchar(15) primary key not null ,
         M_date date not null, M_time time not null,
        T1_id  varchar(30) references  Team(T_id) ,
        T2_id  varchar(30)  references Team(T_id),
        court_no  varchar(5)  references  Court(court_no) not null,
        Winner_id  varchar(30),
        Won_by numeric(3)
);
```

5.1.4 Player

```
CREATE TABLE Player
(
        P_id varchar(15) primary key not null,
        P_name varchar(30) not null,
        P_type varchar(15),
        Success_rate numeric(5),
        T_id varchar(5) references Team(T_id), P_status varchar(15) ,
         P_availability varchar(15));
```

5.1.5 Raider

```
CREATE TABLE Raider
(
        P_id varchar(15) primary key not null,
        R_point numeric(3) not null
 );
```

5.1.6 Defender

```
CREATE TABLE Defender
(
        P_id  varchar(15) primary key not null,
        D_point numeric(3) not null
);
```

5.1.7 All Rounder

```
CREATE TABLE Defender
(
        P_id  varchar(15) primary key not null,
        D_point numeric(3) not null
);
```

5.1.8 Coach

```
CREATE TABLE Coach
(
        c_id  varchar(15) primary key not null,
        c_name  varchar(30) not null ,
        c_experience  numeric(3),
        T_id  varchar(5) references Team(T_id)
);
```

5.1.9 Injury

```
CREATE TABLE Injury
(
        I_id varchar(15) primary key not null,
        I_date date not null,
        P_id varchar(15) references Player(P_id)
);
```

B) DATA INSERTION

5.2.1 Court

```
INSERT INTO Court (court_no,Location)
VALUES ('Cr_01','SVP Stadium Mumbai'),('Cr_02','SVP Stadium Mumbai');
```

5.2.2 Team

```
INSERT INTO team( t_id , t_name , t_rank , total_matches , total_won)
VALUES('t01','Jaipur Pink Panthers','1','3','3'),
('t02','Bengaluru Bulls','4','1','0'),
('t03','Puneri Paltan','2','2','1'),
('t04','Tamil Thalaivas','3','2','1'),
('t05','U.P.Yoddhas','5','1','0'),
('t06','Dabang Delhi K.C.','6','1','0');
```

5.2.3 Match

```
INSERT INTO match( m_no , m_date , m_time , t1_id , t2_id , court_no , winner_id ,
won_by)
VALUES('M01','01-12-2022','19:00','t01','t02','Cr_01','t01','10'),
('M02','02-12-2022','19:00','t03','t05','Cr_02','t03','3'),
('M03','03-12-2022','19:00','t04','t06','Cr_01','t04','5'),
('M04','04-12-2022','19:00','t01','t03','Cr_02','t01','2'),
('M05','05-12-2022','19:00','t01','t04','Cr_01','t01','7');
```

5.2.4 Player

```
INSERT INTO  player ( p_id , p_name , p_type , success_rate , t_id, P_status,
P_availability)
VALUES('p01','Arjun Deshwal','Raider','33','t01','Not Injured', 'Available'),
('p02','Sunil Kumar','Defender','33','t01','Not Injured', 'Available'),
('p03','Abhshek KS','Defender','27','t01','Not Injured', 'Available'),
('p04','Reza Mirbagheri','Defender','13','t01','Not Injured', 'Available'),
('p05','V Ajith','Raider','45','t01','Not Injured', 'Available'),
('p06','Sahul Kumar','Defender','21','t01','Not Injured', 'Available'),
('p07','Ankush','Defender','32','t01','Not Injured', 'Available'),
('p08','Vikash Kandola','Raider','46','t02','Not Injured', 'Available'),
('p09','Harmanjit Singh','Raider','12','t02','Not Injured', 'Available'),
```

('p10','Mahender Singh','Defender','24','t02',’Not Injured’, ‘Available’),
('p11','Bharat','Raider','48','t02',’Not Injured’, ‘Available’),
('p12','Neeraj Narwal','Raider','14','t02',’Not Injured’, ‘Available’),
('p13','Saurabh Nandal','Defender','26','t02',’Not Injured’, ‘Available’),
('p14','Aman','Defender','17','t02',’Not Injured’, ‘Available’),
('p15','Akash Shinde','Raider','28','t03',’Not Injured’, ‘Available’),
('p16','Abhinesh Nadarajan','Defender','13','t03',’Not Injured’, ‘Available’),
('p17','Sanket Sawant','Defender','09','t03',’Not Injured’, ‘Available’),
('p18','Pankaj Mohite','Raider','53','t03',’Not Injured’, ‘Available’),
('p19','Mohammad Nabibakhsh','All_rounder','43','t03',’Not Injured’, ‘Available’),
('p20','Gaurav Khatri','Defender','17','t03',’Not Injured’, ‘Available’),
('p21','Faisal Atrachali','Defender','47','t03',’Not Injured’, ‘Available’),
('p22','Narendra','Raider','34','t04',’Not Injured’, ‘Available’),
('p23','M Abhishek','Defender','13','t04',’Not Injured’, ‘Available’),
('p24','Mohit','Defender','10','t04',’Not Injured’, ‘Available’),
('p25','Himanshu','Defender','09','t04',’Not Injured’, ‘Available’),
('p26','Ajinkya Pawar','Raider','36','t04',’Not Injured’, ‘Available’),
('p27','Arpit Saroha','Defender','23','t04',’Not Injured’, ‘Available’),('p28','Sahil Gulia','Defender','19','t04',’Not Injured’, ‘Available’),
('p29','Pardeep Narwal','Raider','72','t05',’Not Injured’, ‘Available’),
('p30','Ashu Singh','Defender','13','t05',’Not Injured’, ‘Available’),
('p31','Gurdeep','All_rounder','33','t05',’Not Injured’, ‘Available’),
('p32','Sandeep Narwal','All_rounder','23','t05',’Not Injured’, ‘Available’),
('p33','Surendra Gill','Raider','34','t05',’Not Injured’, ‘Available’),
('p34','Nitesh Kumar','Defender','13','t05',’Not Injured’, ‘Available’),
('p35','Summit','Defender','23','t05',’Not Injured’, ‘Available’),
('p36','Naveen Kumar','Raider','38','t06',’Not Injured’, ‘Available’),
('p37','Dipak','Defender','12','t06',’Not Injured’, ‘Available’),
('p38','Vishal','Defender','09','t06',’Not Injured’, ‘Available’),
('p39','Ashu Malik','Raider','11','t06',’Not Injured’, ‘Available’),
('p40','Vijay Malik','All_rounder','39','t06',’Not Injured’, ‘Available’),
('p41','Amit Hooda','Defender','09','t06',’Not Injured’, ‘Available’),
('p42','Sandeep Dhull','Defender','19','t06',’Not Injured’, ‘Available’);

5.2.5 Raider

```
INSERT INTO  raider(p_id , r_point)
VALUES('p01','48'),
('p05','26'),
('p08','38'),
('p09','39'),
('p11','32'),
('p12','44'),
('p15','32'),
('p18','28'),
('p22','37'),
('p26','34'),
('p29','42'),
('p33','40'),
('p36','49'),
('p39','33');
```

5.2.6 Defender

```
INSERT INTO defender(p_id , d_point)  VALUES('p02','34'),
('p03','37'),
('p04','12'),
('p06','38'),
('p07','26'),
('p10','24'),
('p13','19'),
('p14','20'),
('p16','21'),
('p17','34'),
('p20','23'),
('p21','33'),
('p23','36'),
('p24','17'),
('p25','29'),
('p27','34'),
('p28','22'),
('p30','26'),
('p34','27'),
('p35','30'),
```

('p37','31'),
('p38','34'),
('p41','35'),
('p42','16');

5.2.7 All Rounder

INSERT INTO all_rounder(p_id , r_point , d_point) VALUES('p19','34','12'),
('p31','37','13'),
('p32','12','26'),
('p40','38','16');

5.2.8 Coach

INSERT INTO coach(c_id , c_name , c_experience , t_id)
VALUES('c01','Sanjiv Baliyan','12','t01'),
('c02','Randhir Singh Sehrawat','09','t02'),
('c03','BC Ramesh','8','t03'),
('c04','J Udaya Kumar','10','t04'),
('c05','Jasveer Singh','15','t05'),
('c06','Krishan Kumar Hooda','13','t06');

INSERTION OUTPUT:

5.2.1 Court

```
 court_no |       location
----------+-----------------------
 Cr_01    | SVP Stadium Mumbai
 Cr_02    | SVP Stadium Mumbai
(2 rows)
```

5.2.2 Team

```
postgres=# select * from team;
 t_id |        t_name        | t_rank | total_matches | total_won
------+----------------------+--------+---------------+-----------
 t01  | Jaipur Pink Panthers |      1 |             3 |         3
 t02  | Bengaluru Bulls      |      4 |             1 |         0
 t03  | Puneri Paltan        |      2 |             2 |         1
 t04  | Tamil Thalaivas      |      3 |             2 |         1
 t05  | U.P.Yoddhas          |      5 |             1 |         0
 t06  | Dabang Delhi K.C.    |      6 |             1 |         0
(6 rows)
```

5.2.3 Match

```
postgres=# select * from match;
 m_no |   m_date   |  m_time  | t1_id | t2_id | court_no | winner_id | won_by
------+------------+----------+-------+-------+----------+-----------+--------
 M01  | 2022-12-01 | 19:00:00 | t01   | t02   | Cr_01    | t01       |     10
 M02  | 2022-12-02 | 19:00:00 | t03   | t05   | Cr_02    | t03       |      3
 M03  | 2022-12-03 | 19:00:00 | t04   | t06   | Cr_01    | t04       |      5
 M04  | 2022-12-04 | 19:00:00 | t01   | t03   | Cr_02    | t01       |      2
 M05  | 2022-12-05 | 19:00:00 | t01   | t04   | Cr_01    | t01       |      7
(5 rows)
```

5.2.4 Player

```
postgres-# ;
 p_id |       p_name        |   p_type    | success_rate | t_id |  p_status   | p_availability
------+---------------------+-------------+--------------+------+-------------+----------------
 p01  | Arjun Deshwal       | Raider      |           33 | t01  | Not Injured | Available
 p02  | Sunil Kumar         | Defender    |           33 | t01  | Not Injured | Available
 p03  | Abhshek KS          | Defender    |           27 | t01  | Not Injured | Available
 p04  | Reza Mirbagheri     | Defender    |           13 | t01  | Not Injured | Available
 p05  | V Ajith             | Raider      |           45 | t01  | Not Injured | Available
 p06  | Sahul Kumar         | Defender    |           21 | t01  | Not Injured | Available
 p07  | Ankush              | Defender    |           32 | t01  | Not Injured | Available
 p08  | Vikash Kandola      | Raider      |           46 | t02  | Not Injured | Available
 p09  | Harmanjit Singh     | Raider      |           12 | t02  | Not Injured | Available
 p10  | Mahender Singh      | Defender    |           24 | t02  | Not Injured | Available
 p11  | Bharat              | Raider      |           48 | t02  | Not Injured | Available
 p12  | Neeraj Narwal       | Raider      |           14 | t02  | Not Injured | Available
 p13  | Saurabh Nandal      | Defender    |           26 | t02  | Not Injured | Available
 p14  | Aman                | Defender    |           17 | t02  | Not Injured | Available
 p15  | Akash Shinde        | Raider      |           28 | t03  | Not Injured | Available
 p16  | Abhinesh Nadarajan  | Defender    |           13 | t03  | Not Injured | Available
 p17  | Sanket Sawant       | Defender    |            9 | t03  | Not Injured | Available
 p18  | Pankaj Mohite       | Raider      |           53 | t03  | Not Injured | Available
 p19  | Mohammad Nabibakhsh | All_rounder |           43 | t03  | Not Injured | Available
 p20  | Gaurav Khatri       | Defender    |           17 | t03  | Not Injured | Available
 p21  | Faisal Atrachali    | Defender    |           47 | t03  | Not Injured | Available
 p22  | Narendra            | Raider      |           34 | t04  | Not Injured | Available
 p23  | M Abhishek          | Defender    |           13 | t04  | Not Injured | Available
 p24  | Mohit               | Defender    |           10 | t04  | Not Injured | Available
 p25  | Himanshu            | Defender    |            9 | t04  | Not Injured | Available
 p26  | Ajinkya Pawar       | Raider      |           36 | t04  | Not Injured | Available
 p27  | Arpit Saroha        | Defender    |           23 | t04  | Not Injured | Available
 p28  | Sahil Gulia         | Defender    |           19 | t04  | Not Injured | Available
 p29  | Pardeep Narwal      | Raider      |           72 | t05  | Not Injured | Available
 p30  | Ashu Singh          | Defender    |           13 | t05  | Not Injured | Available
 p31  | Gurdeep             | All_rounder |           33 | t05  | Not Injured | Available
 p32  | Sandeep Narwal      | All_rounder |           23 | t05  | Not Injured | Available
 p33  | Surendra Gill       | Raider      |           34 | t05  | Not Injured | Available
 p34  | Nitesh Kumar        | Defender    |           13 | t05  | Not Injured | Available
 p35  | Summit              | Defender    |           23 | t05  | Not Injured | Available
 p36  | Naveen Kumar        | Raider      |           38 | t06  | Not Injured | Available
 p37  | Dipak               | Defender    |           12 | t06  | Not Injured | Available
 p38  | Vishal              | Defender    |            9 | t06  | Not Injured | Available
 p39  | Ashu Malik          | Raider      |           11 | t06  | Not Injured | Available
 p40  | Vijay Malik         | All_rounder |           39 | t06  | Not Injured | Available
 p41  | Amit Hooda          | Defender    |            9 | t06  | Not Injured | Available
 p42  | Sandeep Dhull       | Defender    |           19 | t06  | Not Injured | Available
(42 rows)
```

5.2.5 Raider

```
postgres=# select * from raider;
 p_id | r_point
------+---------
 p01  |      48
 p05  |      26
 p08  |      38
 p09  |      39
 p11  |      32
 p12  |      44
 p15  |      32
 p18  |      28
 p22  |      37
 p26  |      34
 p29  |      42
 p33  |      40
 p36  |      49
 p39  |      33
(14 rows)
```

5.2.6 Defender

```
postgres=# select * from defender;
 p_id | d_point
------+---------
 p02  |      34
 p03  |      37
 p04  |      12
 p06  |      38
 p07  |      26
 p10  |      24
 p13  |      19
 p14  |      20
 p16  |      21
 p17  |      34
 p20  |      23
 p21  |      33
 p23  |      36
 p24  |      17
 p25  |      29
 p27  |      34
 p28  |      22
 p30  |      26
 p34  |      27
 p35  |      30
 p37  |      31
 p38  |      34
 p41  |      35
 p42  |      16
(24 rows)
```

5.2.7 All Rounder

```
postgres=# select * from all_rounder;
 p_id | r_point | d_point
------+---------+---------
 p19  |      34 |      12
 p31  |      37 |      13
 p32  |      12 |      26
 p40  |      38 |      16
(4 rows)
```

5.2.8 Coach

```
postgres=# select * from coach;
 c_id |         c_name          | c_experience | t_id
------+-------------------------+--------------+------
 c01  | Sanjiv Baliyan          |           12 | t01
 c02  | Randhir Singh Sehrawat  |            9 | t02
 c03  | BC Ramesh               |            8 | t03
 c04  | J Udaya Kumar           |           10 | t04
 c05  | Jasveer Singh           |           15 | t05
 c06  | Krishan Kumar Hooda     |           13 | t06
(6 rows)
```

6. QUERIES USING BASIC DBMS CONSTRUCTS JOIN & SUBQUERIES:

1.Find name of the player who is all rounder from team Dabang Delhi K.C

select p_name from player where p_type = 'All_rounder';

```
postgres=# select p_name from player where p_type = 'All_rounder';
       p_name
--------------------
 Mohammad Nabibakhsh
 Gurdeep
 Sandeep Narwal
 Vijay Malik
(4 rows)


postgres=#
```

2.Find the number of raiders in the given database

select count(p_type) from player where p_type ='Raider';

```
postgres=# select count(p_type) from player where p_type ='Raider';
 count
-------
    14
(1 row)


postgres=#
```

3.Count number of player according to each team

```
SELECT T_name, COUNT(*) AS player_count
FROM Player
JOIN Team ON Player.T_id = Team.T_id
GROUP BY T_name;
```

```
postgres=# select t_name, count(*) as player_count from player join team on Player.t_id = team.T_id group by T_name;
        t_name        | player_count
----------------------+--------------
 U.P.Yoddhas          |            7
 Jaipur Pink Panthers |            9
 Tamil Thalaivas      |            7
 Bengaluru Bulls      |            7
 Dabang Delhi K.C.    |            7
 Puneri Paltan        |            7
(6 rows)


postgres=#
```

4.Show the maximum success rate of player.

```
select max(success_rate) from player;
```

```
postgres=# select max(success_rate) from player;
 max
-----
  72
(1 row)


postgres=#
```

5.Display the winning team name

```
SELECT T_name
FROM Team
WHERE T_id
IN (SELECT Winner_id FROM Match WHERE M_date = '2022-12-05');
```

```
postgres=# SELECT T_name
postgres-# FROM Team
postgres-# WHERE T_id
postgres-# IN (SELECT Winner_id FROM Match WHERE M_date = '2022-12-05');
        t_name
----------------------
 Jaipur Pink Panthers
(1 row)
```

6.Display team name with their match details

```
SELECT
   t.t_name as Team_Name,
   m.m_no as Match_No,
   m.m_date as Match_Date,
   m.m_time as Match_Time,
   c.Location as Court_Location,
   m.winner_id as Winner_Id,
   m.won_by as Won_By
FROM
   team t
   JOIN match m ON t.t_id = m.t1_id OR t.t_id = m.t2_id
   JOIN court c ON m.court_no = c.court_no
ORDER BY
   t.t_name ASC,
   m.m_date ASC;
```

```
postgres=# SELECT
postgres-#     t.t_name as Team_Name,
postgres-#     m.m_no as Match_No,
postgres-#     m.m_date as Match_Date,
postgres-#     m.m_time as Match_Time,
postgres-#     c.Location as Court_Location,
postgres-#     m.winner_id as Winner_Id,
postgres-#     m.won_by as Won_By
postgres-# FROM
postgres-#     team t
postgres-#     JOIN match m ON t.t_id = m.t1_id OR t.t_id = m.t2_id
postgres-#     JOIN court c ON m.court_no = c.court_no
postgres-# ORDER BY
postgres-#     t.t_name ASC,
postgres-#     m.m_date ASC;
      team_name       | match_no | match_date | match_time |   court_location   | winner_id | won_by
----------------------+----------+------------+------------+--------------------+-----------+--------
 Bengaluru Bulls      | M01      | 2022-12-01 | 19:00:00   | SVP Stadium Mumbai | t01       |     10
 Dabang Delhi K.C.    | M03      | 2022-12-03 | 19:00:00   | SVP Stadium Mumbai | t04       |      5
 Jaipur Pink Panthers | M01      | 2022-12-01 | 19:00:00   | SVP Stadium Mumbai | t01       |     10
 Jaipur Pink Panthers | M04      | 2022-12-04 | 19:00:00   | SVP Stadium Mumbai | t01       |      2
 Jaipur Pink Panthers | M05      | 2022-12-05 | 19:00:00   | SVP Stadium Mumbai | t01       |      7
 Puneri Paltan        | M07      | 2022-08-01 | 19:00:00   | SVP Stadium Mumbai | t05       |     10
 Puneri Paltan        | M02      | 2022-12-02 | 19:00:00   | SVP Stadium Mumbai | t03       |      3
 Puneri Paltan        | M04      | 2022-12-04 | 19:00:00   | SVP Stadium Mumbai | t01       |      2
 Tamil Thalaivas      | M03      | 2022-12-03 | 19:00:00   | SVP Stadium Mumbai | t04       |      5
 Tamil Thalaivas      | M05      | 2022-12-05 | 19:00:00   | SVP Stadium Mumbai | t01       |      7
 U.P.Yoddhas          | M07      | 2022-08-01 | 19:00:00   | SVP Stadium Mumbai | t05       |     10
 U.P.Yoddhas          | M02      | 2022-12-02 | 19:00:00   | SVP Stadium Mumbai | t03       |      3
(12 rows)
```

7.Display team name which is having more than 3 raiders.

select new.t_name
from (select count(player.p_type),
team.t_name from player inner join team on team.t_id = player.t_id where player.p_type = 'Raider' group by team.t_name) as new where count >3 ;

```
postgres=# select new.t_name from (select count(player.p_type),team.t_name from player
ew where count >3 ;
     t_name
-----------------
 Bengaluru Bulls
(1 row)
```

8.Display raider name with team name

select team.t_name,player.p_name ,player.p_type from player full outer join team on team.t_id = player.t_id where player.p_type = 'Raider';

```
postgres=# select team.t_name,player.p_name ,player.p_type from player full outer join team on team.t_id = player.t_id where player.p_type = 'Raider';
       t_name        |     p_name      | p_type
---------------------+-----------------+--------
 Jaipur Pink Panthers | V Ajith         | Raider
 Bengaluru Bulls      | Vikash Kandola  | Raider
 Bengaluru Bulls      | Harmanjit Singh | Raider
 Bengaluru Bulls      | Bharat          | Raider
 Bengaluru Bulls      | Neeraj Narwal   | Raider
 Puneri Paltan        | Akash Shinde    | Raider
 Puneri Paltan        | Pankaj Mohite   | Raider
 Tamil Thalaivas      | Narendra        | Raider
 Tamil Thalaivas      | Ajinkya Pawar   | Raider
 U.P.Yoddhas          | Pardeep Narwal  | Raider
 U.P.Yoddhas          | Surendra Gill   | Raider
 Dabang Delhi K.C.    | Naveen Kumar    | Raider
 Dabang Delhi K.C.    | Ashu Malik      | Raider
 Jaipur Pink Panthers | Arjun Deshwal   | Raider
(14 rows)


postgres=#
```

9.How many raid points are scored by player name ‘Pardeep Narwal’?

select r_point from raider where p_id in (select p_id from player where p_name = 'Pardeep Narwal');

```
postgres=# select r_point from raider where p_id in (select p_id from player where p_name = 'Pardeep Narwal');
 r_point
---------
      42
(1 row)
```

10.Names of team who had played match in both courts

SELECT T_name
FROM Team
WHERE T_id IN (SELECT T1_id FROM Match WHERE court_no = 'Cr_01'
UNION SELECT T2_id FROM Match WHERE court_no = 'Cr_01')
INTERSECT
SELECT T_name
FROM Team
WHERE T_id IN (SELECT T1_id FROM Match WHERE court_no = 'Cr_02'
UNION SELECT T2_id FROM Match WHERE court_no = 'Cr_02');

```
postgres=# SELECT T_name
postgres-# FROM Team
postgres-# WHERE T_id IN (SELECT T1_id  FROM Match WHERE court_no = 'Cr_01'  UNION SELECT T2_id  FROM Match  WHERE court_no = 'Cr_01')
postgres-#
postgres-# INTERSECT
postgres-# SELECT T_name
postgres-# FROM Team
postgres-# WHERE T_id IN (  SELECT T1_id  FROM Match  WHERE court_no = 'Cr_02' UNION  SELECT T2_id  FROM Match  WHERE court_no = 'Cr_02');
       t_name
---------------------
 U.P.Yoddhas
 Puneri Paltan
 Jaipur Pink Panthers
(3 rows)


postgres=#
```

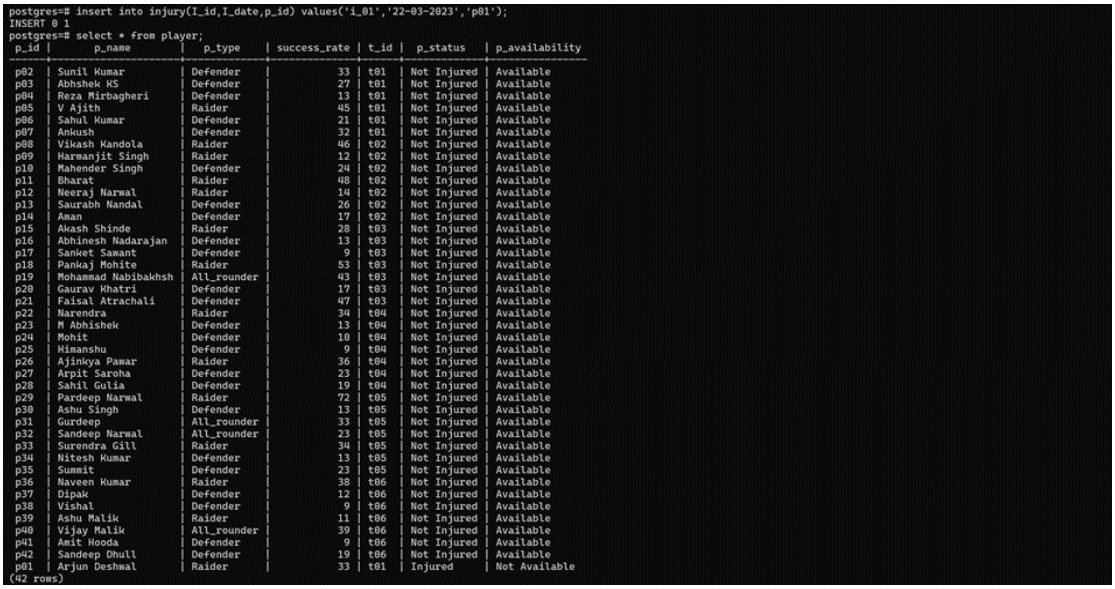
7. FUNCTION & TRIGGERS:

1. This trigger will update the status of the player who was injured to "Injured" and their availability for future games to "Not Available". You can customize the trigger to suit your specific requirements, such as updating different fields in the Player table or triggering notifications to team managers or coaches when a player is injured.

```
CREATE OR REPLACE FUNCTION update_player_status()
RETURNS TRIGGER AS $$
BEGIN
    UPDATE Player SET P_status = 'Injured', P_availability = 'Not
Available' WHERE P_id = NEW.P_id;
    RETURN NEW;
END;
$$ LANGUAGE plpgsql;

CREATE TRIGGER injury_update
AFTER INSERT ON Injury
FOR EACH ROW
EXECUTE FUNCTION update_player_status();
```

On Insertion of:
insert into injury(I_id,I_date,p_id) values('i_01','22-03-2023','p01');

Output:



```
postgres=# insert into injury(I_id,I_date,p_id) values('i_01','22-03-2023','p01');
INSERT 0 1
postgres=# select * from player;
 p_id |       p_name        |   p_type    | success_rate | t_id |  p_status   | p_availability
------+---------------------+-------------+--------------+------+-------------+----------------
 p02  | Sunil Kumar         | Defender    |           33 | t01  | Not Injured | Available
 p03  | Abhshek KS          | Defender    |           27 | t01  | Not Injured | Available
 p04  | Reza Mirbagheri     | Defender    |           13 | t01  | Not Injured | Available
 p05  | V Ajith             | Raider      |           45 | t01  | Not Injured | Available
 p06  | Sahul Kumar         | Defender    |           21 | t01  | Not Injured | Available
 p07  | Ankush              | Defender    |           32 | t01  | Not Injured | Available
 p08  | Vikash Kandola      | Raider      |           46 | t02  | Not Injured | Available
 p09  | Harmanjit Singh     | Raider      |           12 | t02  | Not Injured | Available
 p10  | Mahender Singh      | Defender    |           24 | t02  | Not Injured | Available
 p11  | Bharat              | Raider      |           48 | t02  | Not Injured | Available
 p12  | Neeraj Narwal       | Raider      |           14 | t02  | Not Injured | Available
 p13  | Saurabh Nandal      | Defender    |           26 | t02  | Not Injured | Available
 p14  | Aman                | Defender    |           17 | t02  | Not Injured | Available
 p15  | Akash Shinde        | Raider      |           28 | t03  | Not Injured | Available
 p16  | Abhinesh Nadarajan  | Defender    |           13 | t03  | Not Injured | Available
 p17  | Sanket Sawant       | Defender    |            9 | t03  | Not Injured | Available
 p18  | Pankaj Mohite       | Raider      |           53 | t03  | Not Injured | Available
 p19  | Mohammad Nabibakhsh | All_rounder |           43 | t03  | Not Injured | Available
 p20  | Gaurav Khatri       | Defender    |           17 | t03  | Not Injured | Available
 p21  | Faisal Atrachali    | Defender    |           47 | t03  | Not Injured | Available
 p22  | Narendra            | Raider      |           34 | t04  | Not Injured | Available
 p23  | M Abhishek          | Defender    |           13 | t04  | Not Injured | Available
 p24  | Mohit               | Defender    |           10 | t04  | Not Injured | Available
 p25  | Himanshu            | Defender    |            9 | t04  | Not Injured | Available
 p26  | Ajinkya Pawar       | Raider      |           36 | t04  | Not Injured | Available
 p27  | Arpit Saroha        | Defender    |           23 | t04  | Not Injured | Available
 p28  | Sahil Gulia         | Defender    |           19 | t04  | Not Injured | Available
 p29  | Pardeep Narwal      | Raider      |           72 | t05  | Not Injured | Available
 p30  | Ashu Singh          | Defender    |           13 | t05  | Not Injured | Available
 p31  | Gurdeep             | All_rounder |           33 | t05  | Not Injured | Available
 p32  | Sandeep Narwal      | All_rounder |           23 | t05  | Not Injured | Available
 p33  | Surendra Gill       | Raider      |           34 | t05  | Not Injured | Available
 p34  | Nitesh Kumar        | Defender    |           13 | t05  | Not Injured | Available
 p35  | Summit              | Defender    |           23 | t05  | Not Injured | Available
 p36  | Naveen Kumar        | Raider      |           38 | t06  | Not Injured | Available
 p37  | Dipak               | Defender    |           12 | t06  | Not Injured | Available
 p38  | Vishal              | Defender    |            9 | t06  | Not Injured | Available
 p39  | Ashu Malik          | Raider      |           11 | t06  | Not Injured | Available
 p40  | Vijay Malik         | All_rounder |           39 | t06  | Not Injured | Available
 p41  | Amit Hooda          | Defender    |            9 | t06  | Not Injured | Available
 p42  | Sandeep Dhull       | Defender    |           19 | t06  | Not Injured | Available
 p01  | Arjun Deshwal       | Raider      |           33 | t01  | Injured     | Not Available
(42 rows)
```

2.**This trigger creates a function** insert_player_type() **that gets executed after an** INSERT **operation on the** Player **table. Inside the function, an** IF **statement checks the value of** p_type **column, and accordingly, inserts a record into the corresponding table (**Raider**,** Defender**, or** All_Rounder**) with the same** p_id **value as the newly inserted record in the** Player **table.**

```
CREATE OR REPLACE FUNCTION insert_player_type()
RETURNS TRIGGER AS $$
BEGIN
    IF NEW.p_type = 'Raider' THEN
        INSERT INTO Raider(p_id, r_point) VALUES(NEW.p_id,20);
    ELSIF NEW.p_type = 'Defender' THEN
        INSERT INTO Defender(p_id, d_point) VALUES(NEW.p_id,20);
    ELSIF NEW.p_type = 'All_Rounder' THEN
        INSERT INTO All_rounder(p_id, r_point, d_point) VALUES(NEW.p_id,
20,20);
    END IF;
    RETURN NEW;
END;
$$ LANGUAGE plpgsql;

CREATE TRIGGER insert_player_type_trigger
AFTER INSERT ON Player
FOR EACH ROW
EXECUTE FUNCTION insert_player_type();
```

On insertion of this query:

```
insert into player ( p_id , p_name , p_type , success_rate , t_id, P_status, P_availability)
values('p43','Hanshvee Patil','All_Rounder','33','t01','Not Injured','Available');
```

Output:

```
postgres=# insert into player ( p_id , p_name , p_type
INSERT 0 1
postgres=# select * from All_rounder;
 p_id | r_point | d_point
------+---------+---------
 p19  |      34 |      12
 p31  |      37 |      13
 p32  |      12 |      26
 p40  |      38 |      16
 p43  |      20 |      20
 p44  |      20 |      20
(6 rows)
```

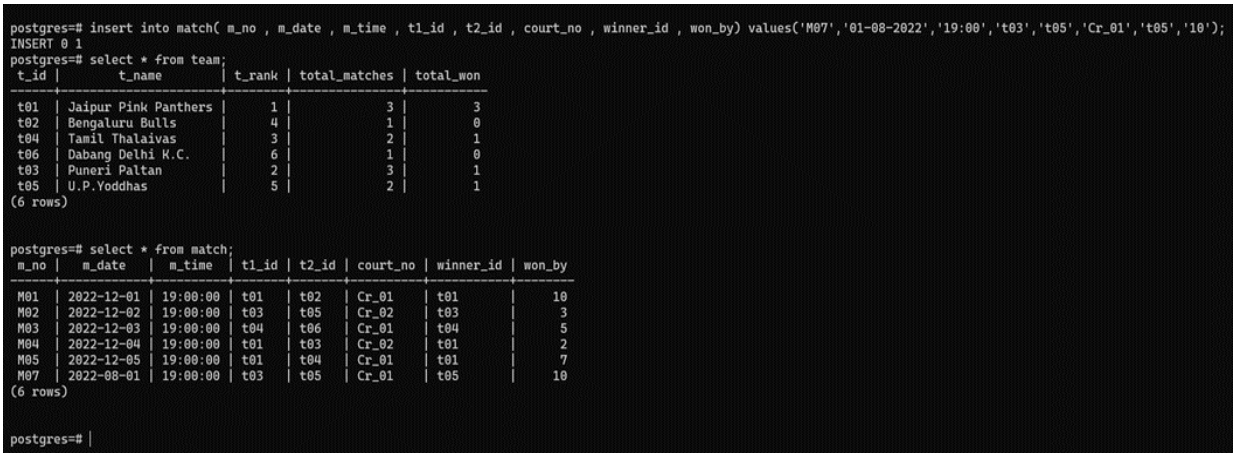
3.**This trigger will be triggered after every insert operation on the `Match` table and will execute the `update_team_stats()` function, which will update the total matches and total wins for the corresponding teams.**

```
CREATE OR REPLACE FUNCTION update_team_stats() RETURNS TRIGGER AS $$
BEGIN
  -- Update total matches for both teams in the match
  UPDATE Team SET Total_matches = Total_matches + 1 WHERE T_id = NEW.T1_id
OR T_id = NEW.T2_id;

  -- Update total wins for the winning team
  IF NEW.Winner_id = NEW.T1_id THEN
    UPDATE Team SET Total_won = Total_won + 1 WHERE T_id = NEW.T1_id;
  ELSE
    UPDATE Team SET Total_won = Total_won + 1 WHERE T_id = NEW.T2_id;
  END IF;

  RETURN NEW;
END;
$$ LANGUAGE plpgsql;

CREATE TRIGGER update_team_stats_trigger
AFTER INSERT ON Match
FOR EACH ROW
EXECUTE FUNCTION update_team_stats();
```

On insertion of this query:

insert into match(m_no , m_date , m_time , t1_id , t2_id , court_no , winner_id , won_by) values('M07','01-08-2022','19:00','t03','t05','Cr_01','t05','10');

Output:



```
postgres=# insert into match( m_no , m_date , m_time , t1_id , t2_id , court_no , winner_id , won_by) values('M07','01-08-2022','19:00','t03','t05','Cr_01','t05','10');
INSERT 0 1
postgres=# select * from team;
 t_id |        t_name        | t_rank | total_matches | total_won
------+----------------------+--------+---------------+-----------
 t01  | Jaipur Pink Panthers |      1 |             3 |         3
 t02  | Bengaluru Bulls      |      4 |             1 |         0
 t04  | Tamil Thalaivas      |      3 |             2 |         1
 t06  | Dabang Delhi K.C.    |      6 |             1 |         0
 t03  | Puneri Paltan        |      2 |             3 |         1
 t05  | U.P.Yoddhas          |      5 |             2 |         1
(6 rows)


postgres=# select * from match;
 m_no |   m_date   |  m_time  | t1_id | t2_id | court_no | winner_id | won_by
------+------------+----------+-------+-------+----------+-----------+--------
 M01  | 2022-12-01 | 19:00:00 | t01   | t02   | Cr_01    | t01       |     10
 M02  | 2022-12-02 | 19:00:00 | t03   | t05   | Cr_02    | t03       |      3
 M03  | 2022-12-03 | 19:00:00 | t04   | t06   | Cr_01    | t04       |      5
 M04  | 2022-12-04 | 19:00:00 | t01   | t03   | Cr_02    | t01       |      2
 M05  | 2022-12-05 | 19:00:00 | t01   | t04   | Cr_01    | t01       |      7
 M07  | 2022-08-01 | 19:00:00 | t03   | t05   | Cr_01    | t05       |     10
(6 rows)


postgres=#
```

8. CURSORS:

1.Cursor to display all players in a particular team:

```
CREATE OR REPLACE FUNCTION display_players_in_team(team_id VARCHAR(15))
RETURNS VOID AS $$
DECLARE
    player_row RECORD;
    player_name VARCHAR(30);
    player_type VARCHAR(15);
BEGIN
    FOR player_row IN SELECT p_name, p_type FROM Player WHERE t_id =
team_id
    LOOP
        player_name := player_row.p_name;
        player_type := player_row.p_type;
        RAISE NOTICE 'Player name: %, Player type: %', player_name,
player_type;
    END LOOP;
END;
$$ LANGUAGE plpgsql;
```

Selecting the cursor:

select display_players_in_team('t02');

Output:

```
postgres=# select display_players_in_team('t02');
NOTICE:  Player name: Vikash Kandola, Player type: Raider
NOTICE:  Player name: Harmanjit Singh, Player type: Raider
NOTICE:  Player name: Mahender Singh, Player type: Defender
NOTICE:  Player name: Bharat, Player type: Raider
NOTICE:  Player name: Neeraj Narwal, Player type: Raider
NOTICE:  Player name: Saurabh Nandal, Player type: Defender
NOTICE:  Player name: Aman, Player type: Defender
 display_players_in_team
-------------------------

(1 row)
```

2.Cursor to display matches in a given month:

```
CREATE OR REPLACE FUNCTION display_matches_in_month(month integer)
RETURNS VOID AS $$
DECLARE
    match_id varchar(15);
    match_date date;
BEGIN
    FOR match_id, match_date IN SELECT M_no, M_date FROM Match WHERE
EXTRACT(MONTH FROM M_date) = month
    LOOP
        RAISE NOTICE 'Match ID: %, Match Date: %', match_id, match_date;
    END LOOP;
END;
$$ LANGUAGE plpgsql;
```

Selecting the cursor;

```
select display_matches_in_month(12);
```

Output: