DBMS - MINI PROJECT

FOOTBALL TEAM MANAGEMENT SYSTEM

Submitted By:

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Vth Semester F Section

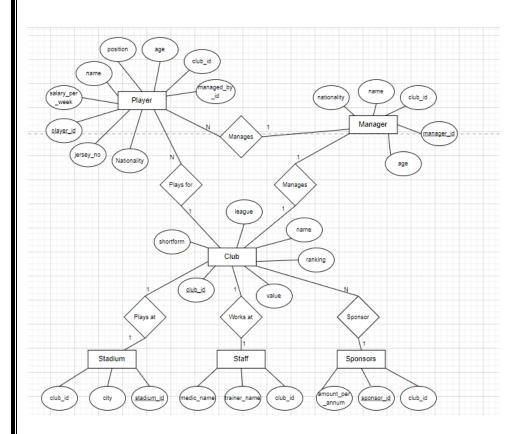
ABSTRACT:

The purpose of this project is to provide the user a simple way to manage teams that play in different leagues and a simple way to get information related to the players and the club they play for. It contains information about the club such as its current estimated value, the league it plays in and the ranking of the club in the league.

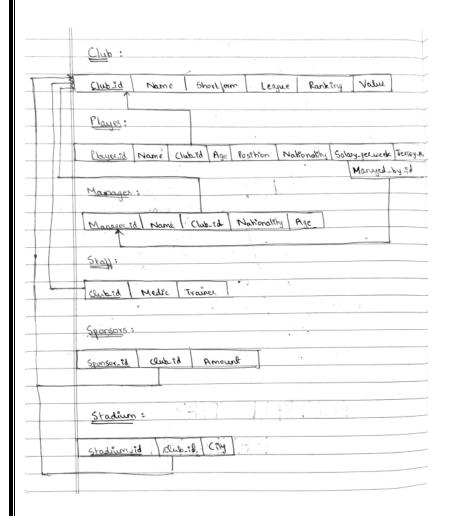
It also has the details of the mangers and the players and the salaries of each player and the position they play in. We also have information about the staff such as the medic and the trainer of the team. We see the sponsors related to this club and how much money they sponsor and the stadiums of each club.

We included an extra feature of the contract between a player and a club and we look into the transfer of players to different clubs under different scenarios relating to the expiration of the contract.

ER Diagram



Relational Schema



DDL statements - Building the database

Creating the database:

create DATABASE if not exists football_team_management;

```
MariaDB [(none)]> create database football_team_management
-> ;
Query OK, 1 row affected (0.017 sec)
```

Using the created database:

use football_team_management;

```
MariaDB [(none)]> use football_team_management;
Database changed
MariaDB [football_team_management]> _
CREATING TABLES:
MariaDB [football_team_management]> create table club(
    -> club_id int,
    -> name varchar(30),
    -> shortform char(5),
    -> league varchar(15),
    -> ranking int,
    -> value int,
    -> primary key(club id)
    -> );
Query OK, 0 rows affected (0.092 sec)
MariaDB [football_team_management]> create table manager(
    -> manager id int,
    -> name varchar(30),
    -> club_id int,
    -> nationality varchar(20),
    -> age int,
    -> primary key(manager_id),
    -> foreign key(club_id) references club(club_id)
    -> );
Query OK, 0 rows affected (0.045 sec)
MariaDB [football_team_management]> create table player(
    -> player_id int,
    -> name varchar(30),
    -> club_id int,
    -> age int,
    -> position char(5),
    -> nationality varchar(20),
    -> salary_per_week int,
    -> jersey_no int,
    -> managed_by_id int,
    -> primary key(player_id),
    -> foreign key(club_id) references club(club_id),
    -> foreign key(managed_by_id) references manager(manager_id)
    -> );
Query OK, 0 rows affected (0.047 sec)
MariaDB [football team management]> create table staff(
    -> club_id int,
    -> medic_name varchar(30),
    -> trainer_name varchar(30),
    -> foreign key(club_id) references club(club_id)
    -> );
```

Query OK, 0 rows affected (0.046 sec)

```
MariaDB [football team management]> create table sponsors(
    -> sponsor_id int,
    -> club_id int,
    -> amount_per_annum int,
    -> primary key(sponsor_id),
    -> foreign key(club_id) references club(club_id)
    -> );
Query OK, 0 rows affected (0.041 sec)
MariaDB [football_team_management]> create table stadium(
    -> stadium id int,
    -> name varchar(30),
    -> club_id int,
    -> city varchar(20),
    -> primary key(stadium_id),
    -> foreign key(club_id) references club(club_id)
    -> );
Query OK, 0 rows affected (0.044 sec)
```

Using show tables command after creating tables:

Populating the Database:

Populating the table club:

Populating the table player:

Populating the table player using load data command:

```
MariaDB [football_team_management]> LOAD DATA INFILE "C:\\Users\\rohit\\Desktop\\PES UG\\Fifth Sem\\DBMS\\players.csv" INTO TABLE player
-> COLUMNS TERMINATED BY ','
-> OPTIONALLY ENCLOSED BY ""
            ESCAPED BY
            LINES TERMINATED BY "\n"
    ->
             IGNORE 1 LINES
    ->
-> (player_id,name,club_id,age,position,nationality,salary_per_week,jersey_no,managed_by_id);
Query OK, 13 rows affected, 13 warnings (0.008 sec)
Records: 13 Deleted: 0 Skipped: 0 Warnings: 13
 lariaDB [football_team_management]> select * from player;
 player_id | name
                                      | club_id | age | position | nationality | salary_per_week | jersey_no | managed_by_id |
                                                       36 | CMF
39 | CMF
            1
                Luka Modric
                                                                           Croatia
                                                                                                        40000
                                                                                                                                            100
                Xavi
                                                                           Spain
                                                                                                       40000
                                                                                                                          10
                                                                                                                                            101
                Neymar Jr
Kevin De Bruyne
           3
                                                                                                        49999
                                                           LWF
                                                                           Brazil
                                                                                                                          11
                                                                                                                                            101
                                                3
                                                       32
34
35
37
38
                                                            AMF
                                                                                                       40000
                                                                                                                          14
           4
                                                                           Belgium
                                                                                                                                            102
                                                                                                                           9
           5
                Karim Benzema
                                                             CF
                                                                           France
                                                                                                        40000
                                                                                                                                            100
                Toni Kroos
                                                            CMF
                                                                                                        40000
           6
                                                1
1
2
2
1
                                                                           Germany
                                                                                                                           8
                                                                                                                                            100
                                                                           Portugal
                Cristiano Ronaldo
                                                             LWF
                                                                                                        50000
                                                                                                                                            100
                                                            AME
           8
                                                                                                        40000
                                                                                                                           8
                                                                                                                                            100
                Kaka
                                                                           Brazil
                Sergio Busquets
Lionel Messi
                                                       36
                                                             DMF
                                                                                                        40000
                                                                                                                           9
                                                                                                                                            101
           9
                                                                           Spain
                                                       34
                                                                           Argentina
                                                                                                        50000
          10
                                                             RWF
                                                                                                                          10
                                                                                                                                            101
          11
                Andres Iniesta
                                                       39
                                                             CMF
                                                                                                        40000
                                                                                                                          11
                                                                                                                                            101
                                                                           Spain
                Sergio Ramos
                                                       34
          12
                                                                           Spain
                                                                                                        40000
                                                                                                                                            100
                                                           CB
          13
                                                       31
                                                                                                                          10
                                                                                                                                            102
                Eden Hazard
                                                             LWF
                                                                           Belgium
                Fernando Torres
                                                                           Spain
                Didier Drogba
                                                       39
                                                             CF
                                                                           Ivory Coast
                                                                                                        30000
                                                                                                                                            102
15 rows in set (0.001 sec)
```

Tools Used:

Backend: MariaDB

Frontend: STREAMLIT

JOIN QUERIES:

1)Display the list of managers and the players that they manage

```
MariaDB [football_team_management]> SELECT manager.name,player.name FROM manager LEFT JOIN player ON manager.club_id=player.club_id;
 name
                  name
 Carlo Ancelotti | Luka Modric
 Carlo Ancelotti
                   Karim Benzema
 Carlo Ancelotti
                   Toni Kroos
 Carlo Ancelotti
                   Cristiano Ronaldo
 Carlo Ancelotti
                   Kaka
 Carlo Ancelotti
                   Sergio Ramos
 Pep Guardiola
                   Xavi
 Pep Guardiola
                   Neymar Jr
 Pep Guardiola
                   Sergio Busquets
                   Lionel Messi
 Pep Guardiola
 Pep Guardiola
                   Andres Iniesta
 Jose Mourinho
                   Kevin De Bruyne
 Jose Mourinho
                   Eden Hazard
 Jose Mourinho
                   Fernando Torres
 Jose Mourinho
                   Didier Drogba
 Alex Ferguson
                   NULL
 Arsene Wenger
                   NULL
 Jurgen Klopp
                  NULL
18 rows in set (0.028 sec)
```

2)Select managers and the players they manage who belong to the same country as them

3)Display team name, manager name and the player names of all clubs in ascending order of club name

Chelsea Jose Mourinho Fernando Torres
Chelsea Jose Mourinho Fernando Torres
FC Barcelona Pep Guardiola Lionel Messi
FC Barcelona Pep Guardiola Xavi
FC Barcelona Pep Guardiola Sengio Busquets
FC Barcelona Pep Guardiola Sengio Busquets
FC Barcelona Pep Guardiola Neymar Jr
Real Madrid FC Carlo Ancelotti Luka Modric
Real Madrid FC Carlo Ancelotti Kaka
Real Madrid FC Carlo Ancelotti Toni Kroos
Real Madrid FC Carlo Ancelotti Cristiano Ronaldo
Real Madrid FC Carlo Ancelotti Sengio Ramos

15 rows in set (0.007 sec)

4)Show details of club, the club manager, and the stadium they play in

AGGREGATE FUNCTIONS:

1) Calculate the number of players playing for each club

2) Select the maximum value of a club

```
MariaDB [football_team_management]> select max(value) from club;
+-----+
| max(value) |
+-----+
| 10000000 |
+-----+
1 row in set (0.001 sec)
```

3) Select the minimum of the sum of a club's value and the money they receive from sponsors

4) Select sum of the salary of players from club with club id=2

SET OPERATIONS:

1) Select the club and the manager of the club only if the age of the manager is less than 60 using set operation

2) Select the id and names of players who are above 30 years old and play in La Liga league

```
4ariaDB [football_team_management]> (select p.player_id,p.name,cl.league from player as p join club as cl where p.club_id=cl.club_id and p.age>30)
    -> (select p.player_id,p.name,cl.league from player as p join club as cl where p.club_id=cl.club_id and cl.league="La Liga");
                               league
 player_id | name
             Luka Modric
                                 La Liga
             Xavi
                                 La Liga
             Neymar Jr
                                 La Liga
             Karim Benzema
                                 La Liga
             Cristiano Ronaldo
                                 La Liga
                                 La Liga
             Kaka
             Sergio Busquets
                                 La Liga
        10
             Lionel Messi
                                 La Liga
        11
             Andres Iniesta
             Sergio Ramos
                                 La Liga
10 rows in set (0.001 sec)
```

3) Select the club id, value, and the amount they receive from sponsors if amount they receive from sponsors is above 150000 or the club id is equal to 1 without duplicates

4)Select the club id, value, and the amount they receive from sponsors if amount they receive from sponsors is above 150000 or the club id is equal to 1. (This is different from union as union all even includes duplicates as seen below)

FUNCTION:

Here, we have designed a function that randomly assigns a contract end year for a player with a range from 2023 to 2028. We use the rand() function to randomize the years chosen. We store this in a separate column in player under the name contract_end.

```
MariaDB [football_team_management]> DELIMITER //
MariaDB [football_team_management]> CREATE FUNCTION contract_end_year_final(player_id int)
-> RETURNS INT DETERMINISTIC
-> BEGIN
-> DECLARE contract_end int;
-> SET contract_end=RAND()*(2028-2022)+2022;
-> RETURN contract_end;
-> END
-> //
Query OK, 0 rows affected (0.009 sec)
```

```
lariaDB [football_team_management]> update player set contract_end=contract_end_year_final(player_id);
Query OK, 15 rows affected (0.006 sec)
Rows matched: 15 Changed: 15 Warnings: 0
 MariaDB [football_team_management]> select * from player;
 player_id | name
                                  | club_id | age | position | nationality | salary_per_week | jersey_no | managed_by_id | contract_end |
          1 | Luka Modric
                                                     CMF
                                                                                             40000
                                                                   Croatia
                                                                                                                                             2022
               Xavi
                                                 39
                                                       CMF
                                                                                                             10
                                                                                                                              101
                                                                                                                                             2023
                                                                   Spain
                                                       LWF
                                                                   Brazil
                                                                                                                                             2024
              Neymar Jr
              Kevin De Bruyne
                                                  32
                                                       AMF
                                                                   Belgium
                                                                                             40000
                                                                                                             14
                                                                                                                              101
                                                                                                                                             2024
                                                 34
35
              Karim Benzema
                                                       CF
                                                                   France
                                                                                             40000
                                                                                                              9
                                                                                                                              100
                                                                                                                                             2024
          6
               Toni Kroos
                                                       CME
                                                                   Germany
                                                                                             40000
                                                                                                              8
                                                                                                                              100
                                                                                                                                             2022
              Cristiano Ronaldo
                                           1
                                                       LWF
                                                                   Portugal
                                                                                             50000
                                                                                                                              100
                                                                                                                                             2023
                                                                                                              8
                                                 38
                                                       AMF
                                                                   Brazil
                                                                                             40000
                                                                                                                              100
                                                                                                                                             2024
              Kaka
                                                 36
              Sergio Busquets
                                                       DMF
                                                                                                                              101
                                                                                                                                             2024
                                                                   Spain
                                                 34
                                                       RWF
                                                                                                             10
         10
              Lionel Messi
                                                                   Argentina
                                                                                                                              101
                                                                                                                                             2027
               Andres Iniesta
                                                  39
                                                       CMF
                                                                   Spain
                                                                                             40000
                                                                                                             11
                                                                                                                              101
                                                                                                                                             2024
               Sergio Ramos
                                                 34
                                                       CB
                                                                   Spain
                                                                                             40000
                                                                                                              4
                                                                                                                              100
                                                                                                                                             2027
         13
              Eden Hazard
                                                       LWF
                                                                   Belgium
                                                                                             30000
                                                                                                             10
                                                                                                                              102
                                                                                                                                             2024
                                           3
         14
               Fernando Torres
                                                 39
                                                       CF
                                                                   Spain
                                                                                             30000
                                                                                                               9
                                                                                                                              102
                                                                                                                                             2028
                                                                   Ivory Coast
                                                                                             30000
              Didier Drogba
                                                                                                               9
                                                                                                                              102
                                                                                                                                             2028
15 rows in set (0.000 sec)
```

PROCEDURE:

Here, we have implemented a procedure which gives us the number of years left from a specific year that will be given as input by the user. This can be used to strategize the transfers a club is interested to make.

TRIGGER:

Trigger to be called when the user tries to update the player details. We do not let the update of a player's club id happen until his contract comes to an end. So we use the trigger to decide if the update of player id is possible (if contract_end not greater than 2022) else we display the message that the contract has not yet been terminated.

```
MariaDB [football_team_management]> DELIMITER $$
MariaDB [football_team_management]> CREATE TRIGGER NO_TRANSFER
    -> BEFORE UPDATE ON player
    -> FOR EACH ROW
    -> BEGIN
    -> IF NEW.club_id!=OLD.club_id and OLD.contract_end>2022 THEN
    -> SIGNAL SQLSTATE VALUE '45000' SET MESSAGE_TEXT="CONTRACT NOT YET TERMINATED!";
    -> END IF
    -> ;
    -> END$$
Query OK, 0 rows affected (0.046 sec)
```

```
MariaDB [football_team_management]> DELIMITER;
MariaDB [football_team_management]> update player set club_id=3 where player_id=6;
Query OK, 1 row affected (0.020 sec)
Rows matched: 1 Changed: 1 Warnings: 0

MariaDB [football_team_management]> update player set club_id=3 where player_id=3;
ERROR 1644 (45000): CONTRACT NOT YET TERMINATED!
MariaDB [football_team_management]> update player set age=28 where player_id=6;
Query OK, 1 row affected (0.003 sec)
Rows matched: 1 Changed: 1 Warnings: 0
```

CURSOR:

The cursor implemented here is to update a player's salary based on the change in ranking of the team after a season. We increase their salary if the club ranking gets better else we decrease it.

```
MariaDB [football_team_management]> delimiter $$
MariaDB [football_team_management]> create procedure salary_change2(in club_id1 int,in old_ranking int,in new_ranking int)
   -> begin
    -> declare r int;
   -> declare finish int default 0;
   -> declare cur cursor for select salary_per_week from player where club_id1=club_id;
   -> declare continue handler for not found set finish=1;
   -> open cur;
   -> a:loop
    -> fetch cur into r;
   -> if finish!=1 then
   -> if old_ranking>new_ranking then
   -> update player set salary_per_week=r*1.1 where club_id1=club_id;
   -> elseif old_ranking<new_ranking then
    -> update player set salary_per_week=r div 1.1 where club_id1=club_id;
    -> end if;
   -> end if;
    -> if finish=1 then
   -> leave a;
   -> end if;
   -> end loop a;
    -> end$$
Query OK, 0 rows affected (0.011 sec)
MariaDB [football_team_management]> delimiter ;
```

layer_id	name	club_id	age	position	nationality	salary_per_week	jersey_no	managed_by_id	contract_en
1	Luka Modric	+ 1	36	CMF	+ Croatia	+ 33000	10	100	 202
2	Xavi	2	39	CMF	Spain	33000	10	101	202
3	Neymar Jr	2	32	LWF	Brazil	33000	11	101	202
4	Kevin De Bruyne	3	32	AMF	Belgium	39930	14	101	202
5	Karim Benzema	1	34	CF	France	33000	9	100	202
6	Toni Kroos	3	28	CMF	Germany	39930	8	100	202
7	Cristiano Ronaldo	1	37	LWF	Portugal	33000	7	100	202
8	Kaka	1	38	AMF	Brazil	33000	8	100	202
9	Sergio Busquets	2	36	DMF	Spain	33000	9	101	202
10	Lionel Messi	2	34	RWF	Argentina	33000	10	101	202
11	Andres Iniesta	2	39	CMF	Spain	33000	11	101	202
12	Sergio Ramos	1	34	СВ	Spain	33000	4	100	202
13	Eden Hazard	3	31	LWF	Belgium	39930	10	102	202
14	Fernando Torres	3	39	CF	Spain	39930	9	102	202
15	Didier Drogba	3	39	CF	Ivory Coast	39930	9	102	202

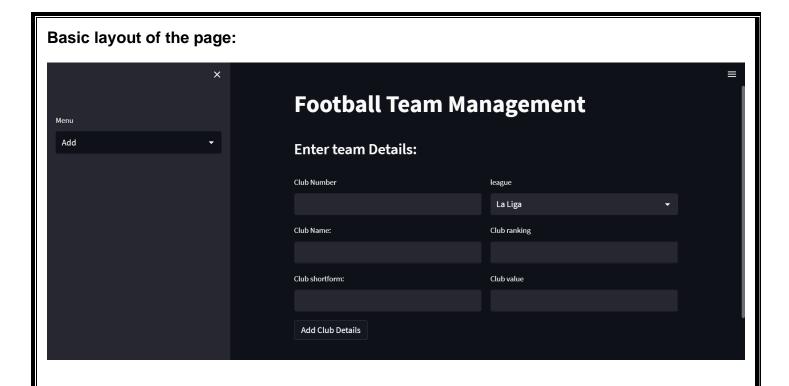
yer_id	name	club_id	age	position	nationality	salary_per_week	jersey_no	managed_by_id	contract_end
1	Luka Modric	1	36	CMF	Croatia	33000	10	100	2022
2	Xavi	2	39	CMF	Spain	33000	10	101	2023
3	Neymar Jr	2	32	LWF	Brazil	33000	11	101	2024
4	Kevin De Bruyne	3	32	AMF	Belgium	43923	14	101	2024
5	Karim Benzema	1	34	CF	France	33000	9	100	2024
6	Toni Kroos	3	28	CMF	Germany	43923	8	100	2022
7	Cristiano Ronaldo	1	37	LWF	Portugal	33000	7	100	2023
8	Kaka	1	38	AMF	Brazil	33000	8	100	2024
9	Sergio Busquets	2	36	DMF	Spain	33000	9	101	2024
10	Lionel Messi	2	34	RWF	Argentina	33000	10	101	2022
11	Andres Iniesta	2	39	CMF	Spain	33000	11	101	2024
12	Sergio Ramos	1	34	СВ	Spain	33000	4	100	2027
13	Eden Hazard	3	31	LWF	Belgium	43923	10	102	2024
14	Fernando Torres	3	39	CF	Spain	43923	9	102	2028
15	Didier Drogba	3	39	CF	Ivory Coast	43923	9	102	2028

FRONT END:

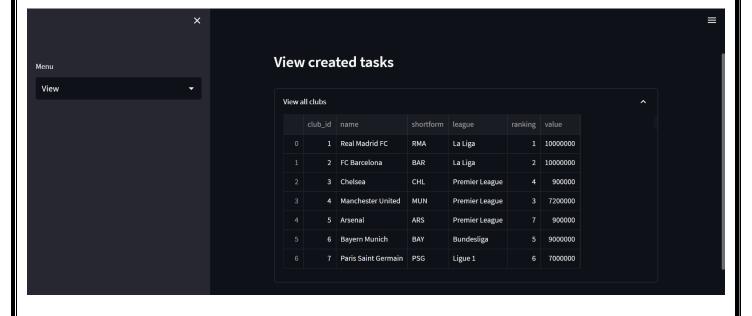
C:\Users\rohit\Desktop\PES UG\Fifth Sem\DBMS\mini project>streamlit run app.py

You can now view your Streamlit app in your browser.

Local URL: http://localhost:8501 Network URL: http://192.168.1.45:8501

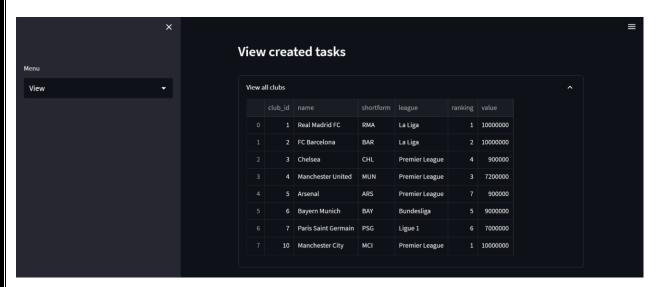


Initial values present:

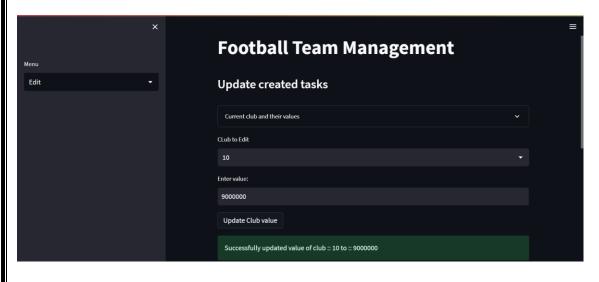


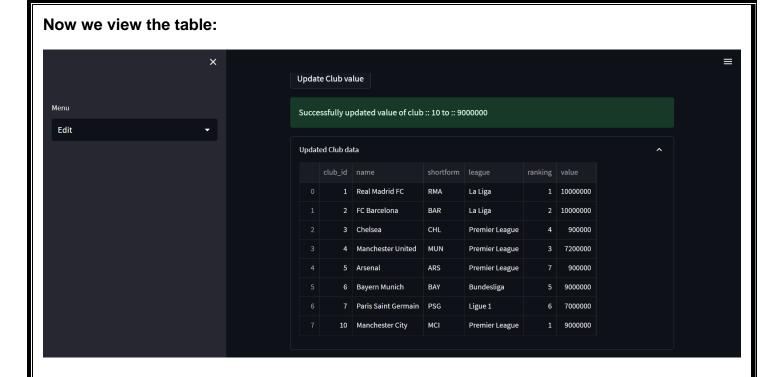
Add Enter team Details: Club Number league 10 Premier League Club Name: Club ranking Manchester City 1 Club shortform: Club value MCI 10000000 Add Club Details Successfully added club with Number: 10

And if we view our table now

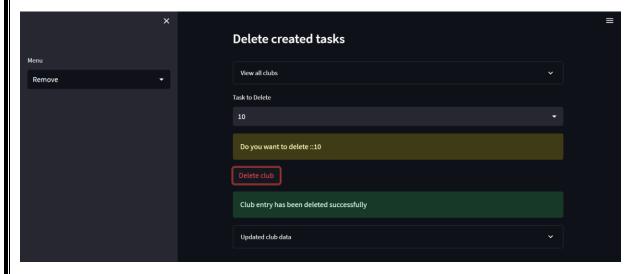


Edit table:





Deleting:



Now we view the table

