BUAN 6320.002

CHESS TOURNAMENT PROJECT

INDIVIDUAL PROJECT ASSIGNMENT MILESTONE-3

05/12/21

Prepared by

Nitika Sharma

Net ID: NXS200013

Under the guidance of

Prof Engin Calisr

INDEX

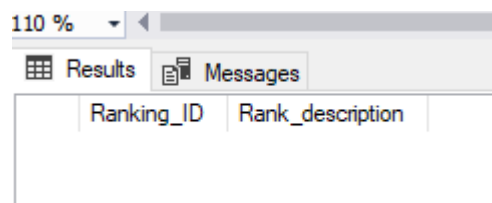## 1) Creating the Chess Database:

SQL Commands:

```
Create database Chessdatabase;
use Chessdatabase;
```

2) Creating the Tables:

I have created 8 Tables which are as following: Ranking Table, Tournament Table, Chess_Club Table, Player Table, Refree Table, Result Table, Match Table, Sponsor Table.

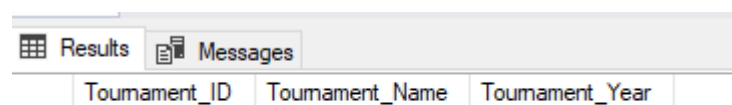**RANKING TABLE:** In ranking table the PK is Ranking_ID.

```
CREATE TABLE Ranking
  (
   Ranking_ID  VARCHAR(15) NOT NULL UNIQUE,
  Rank_description VARCHAR(15) NOT NULL,
 CONSTRAINT pk_Ranking PRIMARY KEY (Ranking_Id)
  );
```

110 %   ◄

▦ Results   ▤ Messages

Ranking_ID	Rank_description

TOURNAMENT TABLE: In Tournament table the PK is Tournament_ID.

```
CREATE TABLE Tournament
  (
  Tournament_ID    VARCHAR(15) NOT NULL UNIQUE,
  Tournament_Name VARCHAR(15) NOT NULL,
  Tournament_Year VARCHAR(15) NOT NULL,
 CONSTRAINT pk_Tournament PRIMARY KEY (Tournament_ID)
  );
```

▦ Results   ▤ Messages

Tournament_ID	Tournament_Name	Tournament_Year

CHESS CLUB TABLE: In Chess Club table the PK is Club_ID and FK is Tournament_ID

```
CREATE TABLE Chess_Club
  (
  Club_ID   VARCHAR(15) NOT NULL UNIQUE,
  Club_Name VARCHAR(15) NOT NULL,
  CONSTRAINT pk_Chess_Club PRIMARY KEY (Club_id ),
```

```
Tournament_ID  VARCHAR(15) NOT NULL REFERENCES Tournament(Tournament_ID),
  );
```

Club_ID	Club_Name	Tournament_ID

PLAYER TABLE In Player table the PK is Player_ID and FK are Ranking_ID, Club_ID

```
CREATE TABLE Player
  (
   Player_ID  VARCHAR(15) NOT NULL UNIQUE,
   Ranking_ID  VARCHAR(15) NOT NULL REFERENCES Ranking(Ranking_ID),
   Club_ID  VARCHAR(15)  NOT NULL REFERENCES Chess_Club(Club_id),
  Player_FirstName VARCHAR(15) NOT NULL,
   Player_LastName VARCHAR(15) NOT NULL,
   Player_Address VARCHAR(100) ,
 CONSTRAINT pk_Player PRIMARY KEY (Player_ID)
  );
```

Player_ID	Ranking_ID	Club_ID	Player_FirstName	Player_LastName	Player_Address

SPONSORS TABLE In Sponsors table the PK is Sponsor_ID and FK is Club_ID

```
CREATE TABLE Sponsors
  (
   Sponsors_ID VARCHAR(15) NOT NULL UNIQUE,
   Club_ID VARCHAR(15) NOT NULL REFERENCES Chess_Club(Club_id ),
  Sponsor_Name VARCHAR(15) NOT NULL,
   Sponsor_Address VARCHAR(100) ,
    Sponsor_PhoneNumber VARCHAR(15) ,
 CONSTRAINT pk_Sponsors PRIMARY KEY (Sponsors_ID )
  );
```

Sponsors_ID	Club_ID	Sponsor_Name	Sponsor_Address	Sponsor_PhoneNumber

REFREE TABLE In Refree table the PK is Refree_ID.

```
CREATE TABLE Refree
  (
   Refree_ID   VARCHAR(15) NOT NULL UNIQUE,
  Refree_FirstName VARCHAR(15) NOT NULL,
   Refree_LastName VARCHAR(15) ,
    Refree_Address VARCHAR(100)NOT NULL ,
 CONSTRAINT pk_Refree PRIMARY KEY (Refree_ID  )
```

```
  );
```


RESULT TABLE   **In Result table the PK is Result_ID.**

```
CREATE TABLE Result
  (
   Result_ID  VARCHAR(15) NOT NULL UNIQUE,
  Result_description VARCHAR(15) NOT NULL,
 CONSTRAINT pk_Result PRIMARY KEY (Result_ID )
  );
```


MATCH TABLE **In Match table the PK is Surr_ID(Surrogate Key) and FK are Tournament_ID, Refree_ID, Result_ID.**

```
CREATE TABLE Match
  (
  Surr_ID VARCHAR (15) NOT NULL UNIQUE,
   Match_ID VARCHAR(15) NOT NULL,
   Tournament_ID VARCHAR(15) NOT NULL REFERENCES Tournament(Tournament_ID ),
   Refree_ID VARCHAR(15) NOT NULL REFERENCES  Refree( Refree_ID),
   Result_ID VARCHAR(15) NOT NULL REFERENCES Result(Result_ID),
  Match_Name VARCHAR(15),
 CONSTRAINT pk_Surr PRIMARY KEY (Surr_ID)
  );
```


3) Inserting the values in the tables :

Inserting the values in RANKING TABLE and SELECTING ALL:

```
INSERT INTO Ranking VALUES('X0001','1');
INSERT INTO Ranking VALUES('X0002','2');
INSERT INTO Ranking VALUES('X0003','3');
INSERT INTO Ranking VALUES('X0004','4');
INSERT INTO Ranking VALUES('X0005','5');
INSERT INTO Ranking VALUES('X0006','6');
INSERT INTO Ranking VALUES('X0007','7');
INSERT INTO Ranking VALUES('X0008','8');

SELECT * FROM Ranking;
```

Inserting the values in TOURNAMENT TABLE and SELECTING ALL:

```
INSERT INTO Tournament VALUES('101','Prodigies','2019');
INSERT INTO Tournament VALUES('102','Avengers', '2020');

SELECT * FROM  Tournament;
```


Inserting the values in CHESS CLUB TABLE and SELECTING ALL:

```
INSERT INTO Chess_Club VALUES('A','Rook','101');
INSERT INTO Chess_Club VALUES('B', 'Bishop', '101');
INSERT INTO Chess_Club VALUES('C', 'Checkmate', '101');
INSERT INTO Chess_Club VALUES('D', 'Gambit', '101');

SELECT * FROM  Chess_Club;
```

Inserting the values in PLAYER TABLE and SELECTING ALL:

```sql
INSERT INTO Player VALUES('A01','X0001','A','Derek','Smith','711-2880 Nulla St.
Mankato Mississippi 96522');
INSERT INTO Player VALUES('A02','X0002', 'A', 'Emma','Jean','606-3727 Ullamcorper.
Street Roseville NH 11523');
INSERT INTO Player VALUES('A03','X0003', 'B', 'William','Drey','7050 South Boston St.
Methuen, MA 01844');
INSERT INTO Player VALUES('A04','X0004', 'C', 'Ava','Reed','9634 Wilson St. West Palm
Beach, FL 33404');
INSERT INTO Player VALUES('A05','X0005', 'C', 'Cory','Freeman', '33 Pineknoll Ave.
Dallas, TX 75211');
INSERT INTO Player VALUES('A06','X0006', 'B','John','Hanks',NULL);
INSERT INTO Player VALUES('A07','X0007', 'D','Morgan','Bale','467 Grant Dr. Astoria,
NY 11103');
INSERT INTO Player VALUES('A08','X0008', 'D', 'Robert', 'Pitt','9570 Oakwood St.
Webster, NY 14580');

SELECT * FROM Player;
```


Inserting the values in SPONSORS TABLE and SELECTING ALL:

```sql
INSERT INTO Sponsors VALUES('S0001', 'A',  'Honda', '1919 Torrance Boulevard Torrance
CA 90501-2746 USA','209-200-6239');
INSERT INTO Sponsors VALUES('S0002', 'A','Dell', 'One Dell Way Round Rock, Texas
78682', '316-754-5323');
```

```
INSERT INTO Sponsors VALUES('S0003','A','Coco-Cola'    ,NULL,'250 375-9756');
INSERT INTO Sponsors VALUES('S0004', 'B', 'Red Bull', '1455 Market St. in San
Francisco, California.',    NULL);
INSERT INTO Sponsors VALUES('S0005', 'C', 'Acer', '410 Terry Ave. North Seattle WA
98109-5210', '211 313-2647');
INSERT INTO Sponsors VALUES('S0006', 'C', 'Microsoft','410 Terry Ave. North Seattle
WA, 98109-5210','212 233-4642');
INSERT INTO Sponsors VALUES('S0007', 'D', 'HBO',NULL, NULL);

SELECT * FROM Sponsors;
```

	Sponsors_ID	Club_ID	Sponsor_Name	Sponsor_Address	Sponsor_PhoneNumber
1	S0001	A	Honda	1919 Torrance Boulevard Torrance CA 90501-2746 USA	209-200-6239
2	S0002	A	Dell	One Dell Way Round Rock, Texas 78682	316-754-5323
3	S0003	A	Coco-Cola	NULL	250 375-9756
4	S0004	B	Red Bull	1455 Market St. in San Francisco, California.	NULL
5	S0005	C	Acer	410 Terry Ave. North Seattle WA 98109-5210	211 313-2647
6	S0006	C	Microsoft	410 Terry Ave. North Seattle WA, 98109-5210	212 233-4642
7	S0007	D	HBO	NULL	NULL

Inserting the values in REFREE TABLE and SELECTING ALL:
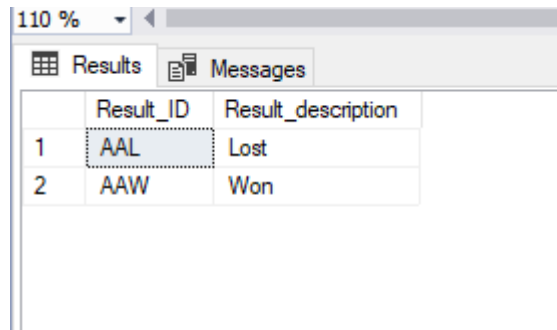
```
INSERT INTO Refree VALUES('1A1','June', 'Cole','8752 West Arrowhead Drive New York NY
10034');
INSERT INTO Refree VALUES('1A2','Jennifer','Rule','8059 Littleton Circle Oklahoma City
OK 73139');
INSERT INTO Refree VALUES('1A3','Chen','Zhing','789 Glenwood Dr. Oklahoma City OK
73104');
INSERT INTO Refree VALUES('1A4','Veni','Sharma', '4 Rosewood St. Bethany, OK 73008');
INSERT INTO Refree VALUES('1A5','Amen',  NULL , 'St. Bethany, OK 73008');
INSERT INTO Refree VALUES('1A6','David', 'Kim', 'Arrowhead Drive New York NY 10034');

SELECT * FROM Refree;
```

	Refree_ID	Refree_FirstName	Refree_LastName	Refree_Address
1	1A1	June	Cole	8752 West Arrowhead Drive New York NY 10034
2	1A2	Jennifer	Rule	8059 Littleton Circle Oklahoma City OK 73139
3	1A3	Chen	Zhing	789 Glenwood Dr. Oklahoma City OK 73104
4	1A4	Veni	Sharma	4 Rosewood St. Bethany, OK 73008
5	1A5	Amen	NULL	St. Bethany, OK 73008
6	1A6	David	Kim	Arrowhead Drive New York NY 10034

Inserting the values in RESULT TABLE and SELECTING ALL:

```sql
INSERT INTO Result VALUES('AAW','Won');
INSERT INTO Result VALUES('AAL','Lost');

SELECT * FROM Result;
```

	Result_ID	Result_description
1	AAL	Lost
2	AAW	Won

Inserting the values in MATCH TABLE and SELECTING ALL:

```sql
INSERT INTO Match VALUES( '1001', 'A1','101','1A1','AAW','Match A1');
INSERT INTO Match VALUES('1002','A1','101',     '1A1','AAL', NULL);
INSERT INTO Match VALUES('1003','A5','101','1A1','AAW','Match A5');
INSERT INTO Match VALUES('1004','A7','101','1A3','AAW', 'Match A7');
INSERT INTO Match VALUES('1005','B1','102','1A1','AAW', NULL);
INSERT INTO Match VALUES('1006','B2','102','1A2','AAW','Match B2');
INSERT INTO Match VALUES('1007','A2','101','1A2','AAW','Match A2');
INSERT INTO Match VALUES('1008','A3','101','1A3','AAL','Match A3');
INSERT INTO Match VALUES('1009','A5','101','1A1','AAL','Match A5');
INSERT INTO Match VALUES('1010','B1','102','1A1','AAL','Match B1');
INSERT INTO Match VALUES('1011','B3','102','1A3','AAL','Match B3');
INSERT INTO Match VALUES('1012','A2','101','1A2','AAL','Match A2');
INSERT INTO Match VALUES('1013','A3','101','1A3','AAW','Match A3');
INSERT INTO Match VALUES('1011','A6','101','1A2','AAW','Match A6');
INSERT INTO Match VALUES('1012','A7','101','1A3','AAL','Match A7');
INSERT INTO Match VALUES('1013','B2','102','1A2','AAL','Match B2');
INSERT INTO Match VALUES('1014','B3','102','1A3','AAW',NULL);
INSERT INTO Match VALUES('1015','A4','101','1A4','AAW','Match A4');
INSERT INTO Match VALUES('1016','A4','101','1A4','AAL', NULL);
INSERT INTO Match VALUES('1017','A6','101','1A2','AAL','Match A6');
INSERT INTO Match VALUES('1018','B4','102','1A4','AAW','Match B4');
INSERT INTO Match VALUES('1019','B4','102','1A4','AAL', NULL);

SELECT * FROM Match ;
```
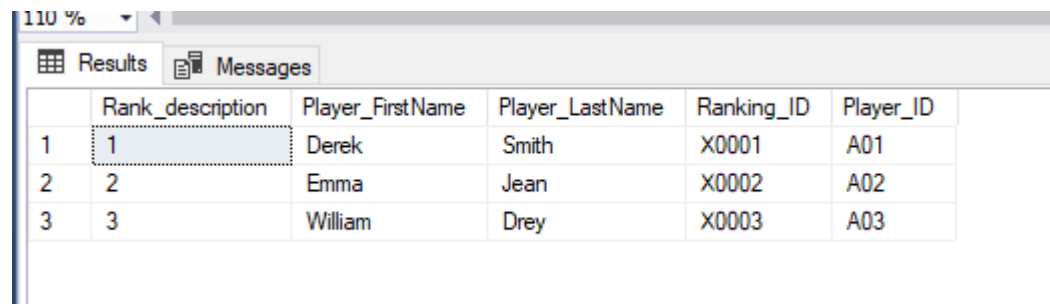
	Surr_ID	Match_ID	Tournament_ID	Refree_ID	Result_ID	Match_Name
1	1001	A1	101	1A1	AAW	Match A1
2	1002	A1	101	1A1	AAL	NULL
3	1003	A5	101	1A1	AAW	Match A5
4	1004	A7	101	1A3	AAW	Match A7
5	1005	B1	102	1A1	AAW	NULL
6	1006	B2	102	1A2	AAW	Match B2
7	1007	A2	101	1A2	AAW	Match A2
8	1008	A3	101	1A3	AAL	Match A3
9	1009	A5	101	1A1	AAL	Match A5
10	1010	B1	102	1A1	AAL	Match B1
11	1011	B3	102	1A3	AAL	Match B3
12	1012	A2	101	1A2	AAL	Match A2
13	1013	A3	101	1A3	AAW	Match A3
14	1014	B3	102	1A3	AAW	NULL
15	1015	A4	101	1A4	AAW	Match A4
16	1016	A4	101	1A4	AAL	NULL
17	1017	A6	101	1A2	AAL	Match A6
18	1018	B4	102	1A4	AAW	Match B4
19	1019	B4	102	1A4	AAL	NULL

4) INNER JOIN

Create inner joins between two tables and explain what is the purpose of your join?

Purpose: The purpose of creating this INNER JOIN is to check the Players with top 3 Ranks from Players and Ranking tables.

```
SELECT r.Rank_description, p.Player_FirstName, p.Player_LastName, r.Ranking_ID,
p.Player_ID
from  Player p
INNER JOIN Ranking r
ON  p.Ranking_ID = r.Ranking_ID
WHERE r.Rank_description < 4
```
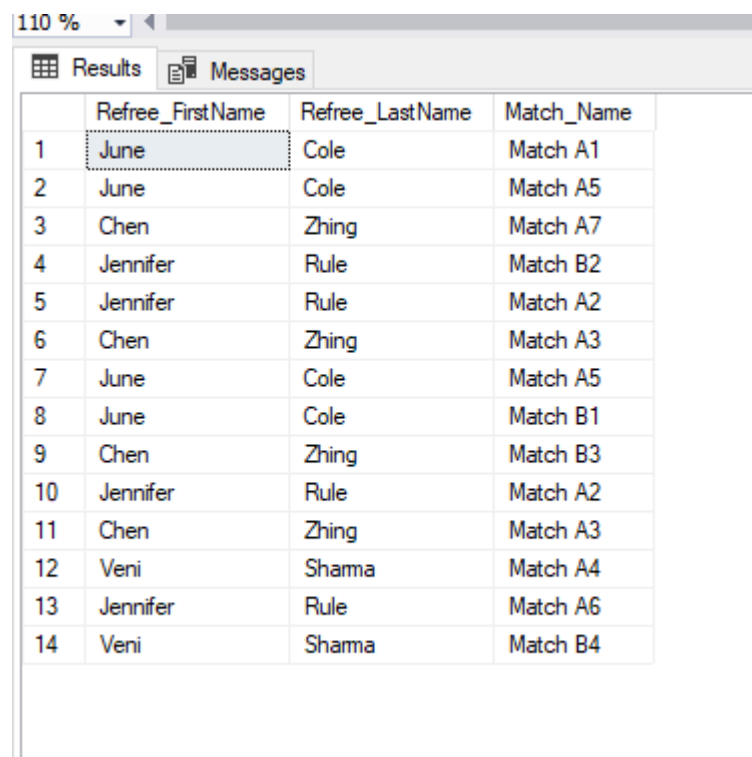
	Rank_description	Player_FirstName	Player_LastName	Ranking_ID	Player_ID
1	1	Derek	Smith	X0001	A01
2	2	Emma	Jean	X0002	A02
3	3	William	Drey	X0003	A03

5) FULL JOIN:

Create full joins between two tables and explain what is the purpose of your join?

Purpose: The purpose of creating this FULL JOIN is to find which Refree monitors which Matches from Refree table and Match Table.

```
SELECT r.Refree_FirstName, r.Refree_LastName, m.Match_Name
from  Match m
FULL OUTER JOIN Refree r
ON  m.Refree_ID = r.Refree_ID
WHERE Match_Name IS NOT NULL;
```

	Refree_FirstName	Refree_LastName	Match_Name
1	June	Cole	Match A1
2	June	Cole	Match A5
3	Chen	Zhing	Match A7
4	Jennifer	Rule	Match B2
5	Jennifer	Rule	Match A2
6	Chen	Zhing	Match A3
7	June	Cole	Match A5
8	June	Cole	Match B1
9	Chen	Zhing	Match B3
10	Jennifer	Rule	Match A2
11	Chen	Zhing	Match A3
12	Veni	Sharma	Match A4
13	Jennifer	Rule	Match A6
14	Veni	Sharma	Match B4

6) LEFT OUTER JOIN

Create left outer joins between two tables and explain what is the purpose of your join ?

11

Purpose: The purpose of creating this LEFT OUTER JOIN is to find the information of the Refrees who don't monitor matches.

```sql
SELECT r.Refree_ID, r.Refree_FirstName, r.Refree_LastName,  r.Refree_Address,
m.Surr_ID
from  Refree r
LEFT OUTER JOIN Match m
ON  r.Refree_ID = m.Refree_ID
    WHERE Surr_ID IS NULL;
```

	Refree_ID	Refree_FirstName	Refree_LastName	Refree_Address	Surr_ID
1	1A5	Amen	NULL	St. Bethany, OK 73008	NULL
2	1A6	David	Kim	Arrowhead Drive New York NY 10034	NULL

7) RIGHT OUTER JOIN

Create right outer joins between two tables and explain what is the purpose of your join ?

Purpose: The purpose of creating this RIGHT OUTER JOIN is to find the Names of the Clubs sponsored by different sponsors from Chess_Club and Sponsor table

```sql
SELECT s.Sponsor_Name, c.Club_Name
from  Sponsors s
RIGHT OUTER JOIN Chess_Club c
ON  s.Club_ID = c.Club_ID;
```
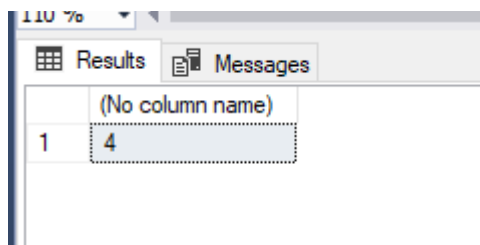
	Sponsor_Name	Club_Name
1	Honda	Rook
2	Dell	Rook
3	Coco-Cola	Rook
4	Red Bull	Bishop
5	Acer	Checkmate
6	Microsoft	Checkmate
7	HBO	Gambit

8) INTERSECT

Create intersect between two tables and explain what is the purpose of your intersect?

Purpose: The purpose of creating this INTERSECT is to Count all the refrees who monitor the matches. Not all refree monitor the matches. Only 4 Refrees out of the 6 Refrees monitor the matches. Rest 2 refrees don't monitor the matches

```
SELECT COUNT(*) FROM
 (
 SELECT Refree_ID FROM Match
 INTERSECT
 SELECT Refree_ID FROM Refree
       )I
```

(No column name)
1	4

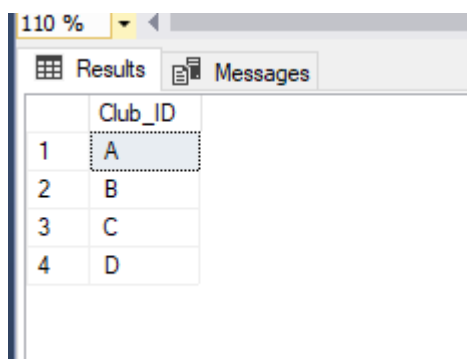## 9) UNION

Create a union between two tables and explain what is the purpose of your union?

   Purpose: The purpose of creating this UNION is to get all the Club IDs which are sponsored by sponsors.

```
SELECT Club_ID FROM Sponsors
 UNION
SELECT Club_ID FROM Chess_Club;
```

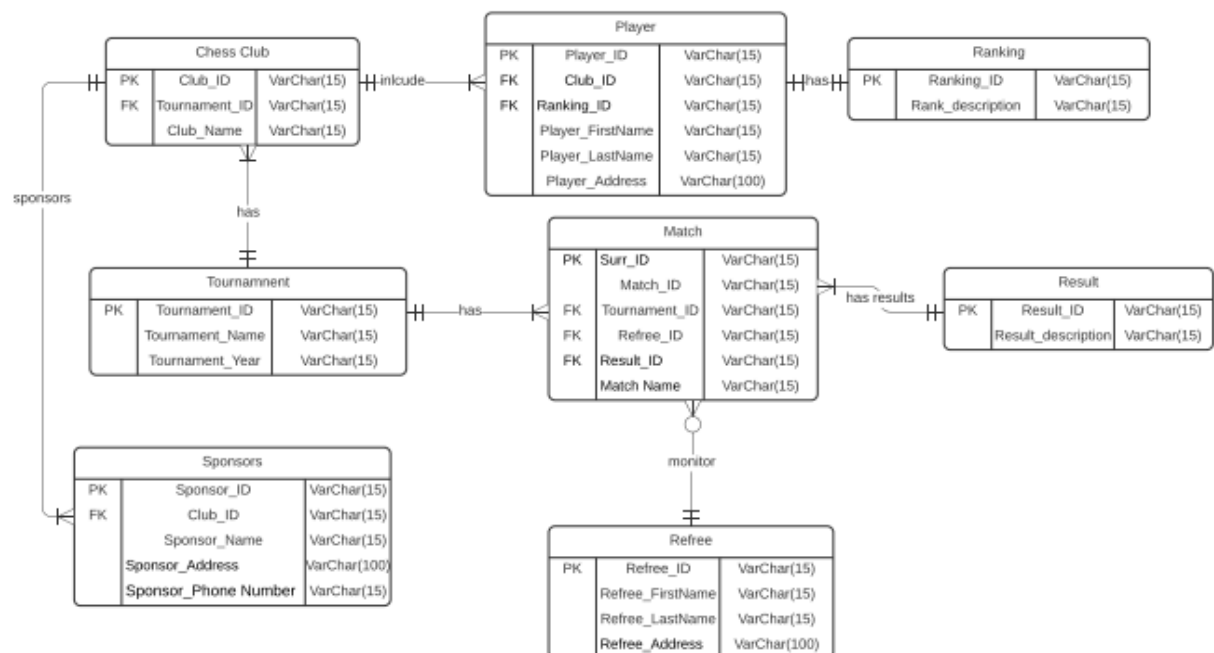| Club_ID |
|---|
| 1 | A |
| 2 | B |
| 3 | C |
| 4 | D |

10)   EXCEPT

Create except between two tables and explain what is the purpose of your except?

Purpose: The purpose of creating this EXCEPT is to get refree ID who don't monitor any matches.

```
SELECT Refree_ID FROM Refree
EXCEPT
SELECT Refree_ID FROM Match
```

	Refree_ID
1	1A5
2	1A6

11) ERD

12)   Codes:

```
Create database Chessdatabase;
use Chessdatabase;


----------------------CREATE RANKING TABLE--------------------------

CREATE TABLE Ranking
  (
   Ranking_ID  VARCHAR(15) NOT NULL UNIQUE,
  Rank_description VARCHAR(15) NOT NULL,
 CONSTRAINT pk_Ranking PRIMARY KEY (Ranking_Id)
  );

INSERT INTO Ranking VALUES('X0001','1');
INSERT INTO Ranking VALUES('X0002','2');
INSERT INTO Ranking VALUES('X0003','3');
INSERT INTO Ranking VALUES('X0004','4');
INSERT INTO Ranking VALUES('X0005','5');
INSERT INTO Ranking VALUES('X0006','6');
INSERT INTO Ranking VALUES('X0007','7');
INSERT INTO Ranking VALUES('X0008','8');

SELECT * FROM Ranking;

----------------------CREATE TOURNAMENT TABLE--------------------------

CREATE TABLE Tournament
  (
  Tournament_ID    VARCHAR(15) NOT NULL UNIQUE,
  Tournament_Name VARCHAR(15) NOT NULL,
  Tournament_Year VARCHAR(15) NOT NULL,
 CONSTRAINT pk_Tournament PRIMARY KEY (Tournament_ID)
  );

INSERT INTO Tournament VALUES('101','Prodigies','2019');
INSERT INTO Tournament VALUES('102','Avengers', '2020');

SELECT * FROM  Tournament;


----------------------CREATE CHESS CLUB TABLE--------------------------

CREATE TABLE Chess_Club
  (
  Club_ID   VARCHAR(15) NOT NULL UNIQUE,
  Tournament_ID  VARCHAR(15) NOT NULL REFERENCES Tournament(Tournament_ID),
  Club_Name VARCHAR(15) NOT NULL,
  CONSTRAINT pk_Chess_Club PRIMARY KEY (Club_id ),
   );

INSERT INTO Chess_Club VALUES('A','Rook','101');
INSERT INTO Chess_Club VALUES('B', 'Bishop', '101');
INSERT INTO Chess_Club VALUES('C', 'Checkmate', '101');
INSERT INTO Chess_Club VALUES('D', 'Gambit', '101');

SELECT * FROM  Chess_Club;
```

----------------------CREATE PLAYER TABLE--------------------------

```sql
CREATE TABLE Player
  (
    Player_ID  VARCHAR(15) NOT NULL UNIQUE,
    Ranking_ID  VARCHAR(15) NOT NULL REFERENCES Ranking(Ranking_ID),
    Club_ID  VARCHAR(15)  NOT NULL REFERENCES Chess_Club(Club_id),
   Player_FirstName VARCHAR(15) NOT NULL,
    Player_LastName VARCHAR(15) NOT NULL,
    Player_Address VARCHAR(100) ,
 CONSTRAINT pk_Player PRIMARY KEY (Player_ID)
  );

INSERT INTO Player VALUES('A01','X0001','A','Derek','Smith','711-2880 Nulla St.
Mankato Mississippi 96522');
INSERT INTO Player VALUES('A02','X0002', 'A', 'Emma','Jean','606-3727 Ullamcorper.
Street Roseville NH 11523');
INSERT INTO Player VALUES('A03','X0003', 'B', 'William','Drey','7050 South Boston St.
Methuen, MA 01844');
INSERT INTO Player VALUES('A04','X0004', 'C', 'Ava','Reed','9634 Wilson St. West Palm
Beach, FL 33404');
INSERT INTO Player VALUES('A05','X0005', 'C', 'Cory','Freeman', '33 Pineknoll Ave.
Dallas, TX 75211');
INSERT INTO Player VALUES('A06','X0006', 'B','John','Hanks',NULL);
INSERT INTO Player VALUES('A07','X0007', 'D','Morgan','Bale','467 Grant Dr. Astoria,
NY 11103');
INSERT INTO Player VALUES('A08','X0008', 'D', 'Robert', 'Pitt','9570 Oakwood St.
Webster, NY 14580');

SELECT * FROM Player;
```

----------------------CREATE SPONSORS TABLE---------------------------

```sql
CREATE TABLE Sponsors
  (
    Sponsors_ID VARCHAR(15) NOT NULL UNIQUE,
    Club_ID VARCHAR(15) NOT NULL REFERENCES Chess_Club(Club_id ),
   Sponsor_Name VARCHAR(15) NOT NULL,
    Sponsor_Address VARCHAR(100) ,
     Sponsor_PhoneNumber VARCHAR(15) ,
 CONSTRAINT pk_Sponsors PRIMARY KEY (Sponsors_ID )
  );

INSERT INTO Sponsors VALUES('S0001', 'A',  'Honda', '1919 Torrance Boulevard Torrance
CA 90501-2746 USA','209-200-6239');
INSERT INTO Sponsors VALUES('S0002', 'A','Dell','One Dell Way Round Rock, Texas
78682', '316-754-5323');
INSERT INTO Sponsors VALUES('S0003','A','Coco-Cola'    ,NULL,'250 375-9756');
INSERT INTO Sponsors VALUES('S0004', 'B', 'Red Bull', '1455 Market St. in San
Francisco, California.',    NULL);
INSERT INTO Sponsors VALUES('S0005', 'C', 'Acer', '410 Terry Ave. North Seattle WA
98109-5210', '211 313-2647');
INSERT INTO Sponsors VALUES('S0006', 'C', 'Microsoft','410 Terry Ave. North Seattle
WA, 98109-5210','212 233-4642');
INSERT INTO Sponsors VALUES('S0007', 'D', 'HBO',NULL, NULL);

SELECT * FROM Sponsors;
```

```
----------------------CREATE REFREE TABLE---------------------------

CREATE TABLE Refree
  (
   Refree_ID    VARCHAR(15) NOT NULL UNIQUE,
  Refree_FirstName VARCHAR(15) NOT NULL,
   Refree_LastName VARCHAR(15) ,
    Refree_Address VARCHAR(100)NOT NULL ,
 CONSTRAINT pk_Refree PRIMARY KEY (Refree_ID  )
  );

INSERT INTO Refree VALUES('1A1','June', 'Cole', '8752 West Arrowhead Drive New York NY
10034');
INSERT INTO Refree VALUES('1A2','Jennifer',      'Rule',       '8059 Littleton Circle
Oklahoma City OK 73139');
INSERT INTO Refree VALUES('1A3','Chen',   'Zhing', '789 Glenwood Dr. Oklahoma City OK
73104');
INSERT INTO Refree VALUES('1A4','Veni',   'Sharma','4 Rosewood St. Bethany, OK 73008');
INSERT INTO Refree VALUES('1A5','Amen',   NULL , 'St. Bethany, OK 73008');
INSERT INTO Refree VALUES('1A6','David','Kim',  'Arrowhead Drive New York NY 10034');

SELECT * FROM Refree;

----------------------CREATE RESULT TABLE---------------------------

CREATE TABLE Result
  (
   Result_ID  VARCHAR(15) NOT NULL UNIQUE,
  Result_description VARCHAR(15) NOT NULL,
 CONSTRAINT pk_Result PRIMARY KEY (Result_ID )
  );

INSERT INTO Result VALUES('AAW','Won');
INSERT INTO Result VALUES('AAL','Lost');

SELECT * FROM Result;


----------------------CREATE MATCH TABLE---------------------------

CREATE TABLE Match
  (
  Surr_ID VARCHAR (15) NOT NULL UNIQUE,
   Match_ID VARCHAR(15) NOT NULL,
   Tournament_ID VARCHAR(15) NOT NULL REFERENCES Tournament(Tournament_ID ),
   Refree_ID VARCHAR(15) NOT NULL REFERENCES  Refree( Refree_ID),
   Result_ID VARCHAR(15) NOT NULL REFERENCES Result(Result_ID),
  Match_Name VARCHAR(15),
 CONSTRAINT pk_Surr PRIMARY KEY (Surr_ID)
  );


INSERT INTO Match VALUES( '1001', 'A1','101','1A1','AAW','Match A1');
INSERT INTO Match VALUES('1002','A1','101',     '1A1','AAL', NULL);
INSERT INTO Match VALUES('1003','A5','101','1A1','AAW','Match A5');
INSERT INTO Match VALUES('1004','A7','101','1A3','AAW', 'Match A7');
INSERT INTO Match VALUES('1005','B1','102','1A1','AAW', NULL);
INSERT INTO Match VALUES('1006','B2','102','1A2','AAW','Match B2');
INSERT INTO Match VALUES('1007','A2','101','1A2','AAW','Match A2');
INSERT INTO Match VALUES('1008','A3','101','1A3','AAL','Match A3');
INSERT INTO Match VALUES('1009','A5','101','1A1','AAL','Match A5');
INSERT INTO Match VALUES('1010','B1','102',     '1A1','AAL','Match B1');
```

```sql
INSERT INTO Match VALUES('1011','B3','102',    '1A3','AAL','Match B3');
INSERT INTO Match VALUES('1012','A2','101',    '1A2','AAL','Match A2');
INSERT INTO Match VALUES('1013','A3','101','1A3','AAW','Match A3');
INSERT INTO Match VALUES('1011','A6','101','1A2','AAW','Match A6');
INSERT INTO Match VALUES('1012','A7','101',    '1A3','AAL','Match A7');
INSERT INTO Match VALUES('1013','B2','102',    '1A2','AAL','Match B2');
INSERT INTO Match VALUES('1014','B3','102','1A3','AAW',NULL);
INSERT INTO Match VALUES('1015','A4','101',    '1A4','AAW','Match A4');
INSERT INTO Match VALUES('1016','A4','101',    '1A4','AAL', NULL);
INSERT INTO Match VALUES('1017','A6','101','1A2','AAL','Match A6');
INSERT INTO Match VALUES('1018','B4','102',    '1A4','AAW','Match B4');
INSERT INTO Match VALUES('1019','B4','102',    '1A4','AAL', NULL);


SELECT * FROM Match ;



--------------------------------------------------------------------------------------

----- INNER JOIN between players and Ranks. Top 3 players with ranks top 3--------

SELECT r.Rank_description, p.Player_FirstName, p.Player_LastName, r.Ranking_ID,
p.Player_ID
from  Player p
INNER JOIN Ranking r
ON  p.Ranking_ID = r.Ranking_ID
WHERE r.Rank_description < 4



------------FULL OUTER JOIN Refrees monitor which matches -------------

SELECT r.Refree_FirstName, r.Refree_LastName, m.Match_Name
from  Match m
FULL OUTER JOIN Refree r
ON  m.Refree_ID = r.Refree_ID
WHERE Match_Name IS NOT NULL;

------------RIGHT JOIN sponsors sponsor which clubs-------------
SELECT s.Sponsor_Name, c.Club_Name
from  Sponsors s
RIGHT OUTER JOIN Chess_Club c
ON  s.Club_ID = c.Club_ID;

------------LEFT OUTER JOIN Information of the Refrees who  don't monitor the matches-
--------------------
SELECT r.Refree_ID, r.Refree_FirstName, r.Refree_LastName,  r.Refree_Address,
m.Surr_ID
from  Refree r
LEFT OUTER JOIN Match m
ON  r.Refree_ID = m.Refree_ID
WHERE Surr_ID IS NULL;


------------UNION getting all the club IDs which are sponsored by sponsors------------
-

 SELECT Club_ID FROM Sponsors
 UNION
 SELECT Club_ID FROM Chess_Club;


------------------INTERSECT All the matches have been checked by how many refrees?
SELECT COUNT(*) FROM
```

```
 (
 SELECT Refree_ID FROM Match
 INTERSECT
 SELECT Refree_ID FROM Refree
 )I
```

--------------- EXCEPT- Are there any refree who didn't monitored Match? How many?
```
SELECT Refree_ID FROM Refree
EXCEPT
SELECT Refree_ID FROM Match
```