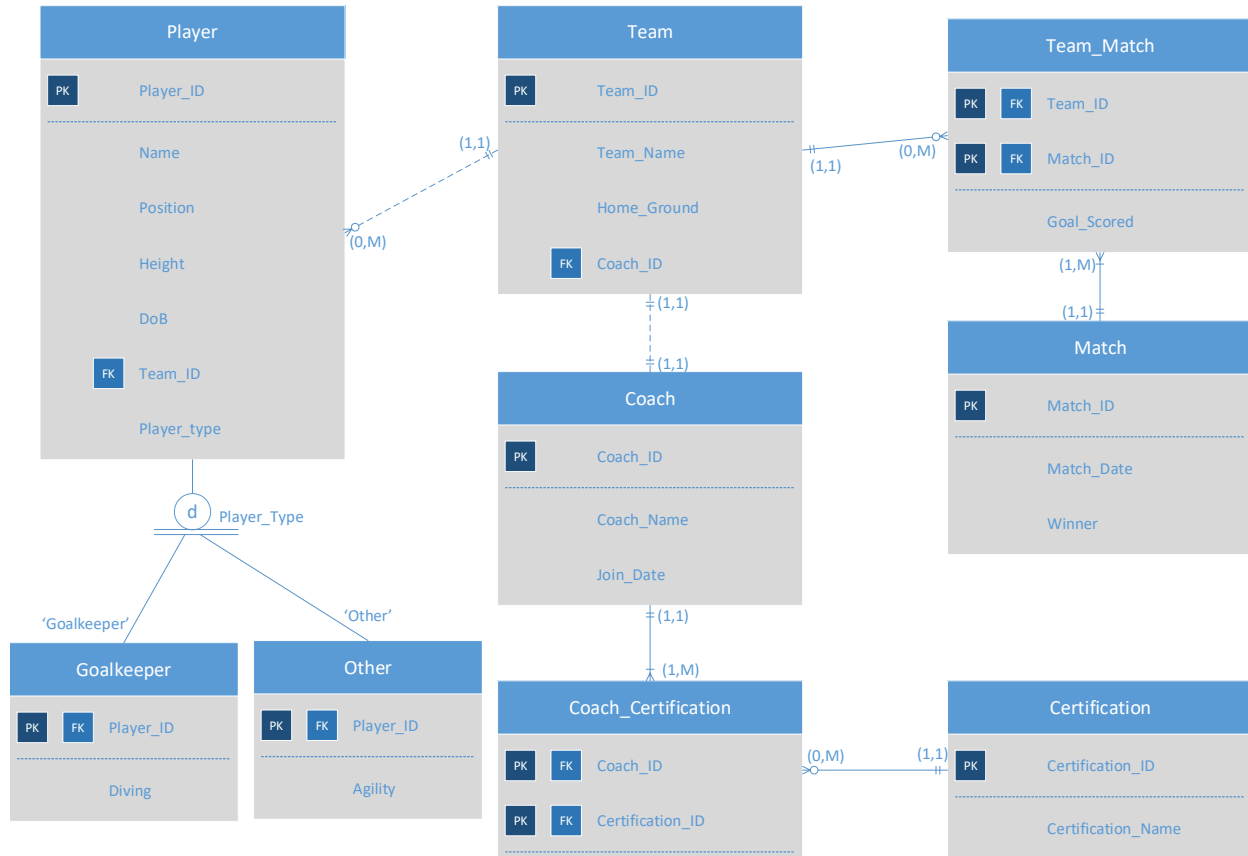


## Project Report 6



1. .

```

--Jiyad ur Rehman
--1

SELECT Player_Name, Height FROM PLAYER WHERE
Height > (SELECT Avg (Height) FROM PLAYER);
    
```

Script Output x | Query Result x | Query R... x

SQL | All Rows Fetched: 4 in 0.747 seconds

|   | PLAYER_NAME | HEIGHT |
|---|-------------|--------|
| 1 | Neymar      | 188    |
| 2 | Ronaldinho  | 185    |
| 3 | Rooney      | 187    |
| 4 | Salah       | 189    |

The query extracts Name of the players and their height for all the players whose height is greater than the average height of all the players.

2. .

```
--Jiyad ur Rehman
--2

SELECT p.Player_Name, t.tn Team FROM Player p, (SELECT Team_Name tn, Team_Id tid FROM TEAM) t
WHERE
p.team_id = t.tid;
```

Script Output x Query Result x Query Result 1 x

SQL | All Rows Fetched: 12 in 0.396 seconds

|    | PLAYER_NAME | TEAM  |
|----|-------------|-------|
| 1  | Ronaldo     | ManU  |
| 2  | Messi       | ManU  |
| 3  | Neymar      | ManU  |
| 4  | Kahn        | ManU  |
| 5  | Pogba       | Barca |
| 6  | Ronaldinho  | Barca |
| 7  | Leno        | Barca |
| 8  | Rooney      | ManC  |
| 9  | Howard      | ManC  |
| 10 | Bale        | Aston |
| 11 | Salah       | Aston |
| 12 | Neuer       | Aston |

The query extracts player name and their team names. Instead of using the whole team table we created a temporary table in FROM clause that only contains Team name and team id.

3. .

The query extract average height of all the teams whose average height is more than the average height of team 'Barca.'

The query extracts Team name and Average height based only on the players born after 1-Jan-1983 and for only those teams whose (HAVING) average height will be less than any of the team average height whose name starts with letter 'M'.

5. .

```
--Jiyad ur Rehman
--5

SELECT t.Team_Name, c.Coach_name, Round(Avg(Round(Months_Between(SYSDATE , p.DOB)/12))) Age FROM PLayer p, Team t, coach c WHERE
p.team_id = t.team_id AND
t.coach_id = c.coach_id AND
c.join_date > (SELECT join_date FROM coach WHERE coach_Name = 'Zidane')
GROUP BY t.team_name, c.coach_name;
```

Script Output x Query Result x Query Result 1 x Query Result 2 x Query Result 3 x

SQL | All Rows Fetched: 3 in 0.03 seconds

|   | TEAM_NAME | COACH_NAME | AGE |
|---|-----------|------------|-----|
| 1 | Aston     | Fido       | 27  |
| 2 | ManC      | Carlos     | 35  |
| 3 | Barca     | Beckham    | 35  |

Query extract team name, coach name and average age of that team (rounded off) for all the teams whose coaches joined the team after Zidane joined his team as coach

6. .

```
--Jiyad ur Rehman
--6

Select p.Player_Name, TO_CHAR(DECODE (TEAM_NAME, 'ManU', 1,
'Barca', 3,
'ManC', 4,
'Aston', 2,
0)) "Team Rank"
FROM player p, team t WHERE
p.team_id=t.team_id;
```

Script Output x Query Result x Query Result 1 x Query Result 2 x Query Result 3 x

SQL | All Rows Fetched: 12 in 0.295 seconds

|    | PLAYER_NAME | Team Rank |
|----|-------------|-----------|
| 1  | Ronaldo     | 1         |
| 2  | Messi       | 1         |
| 3  | Neymar      | 1         |
| 4  | Kahn        | 1         |
| 5  | Pogba       | 3         |
| 6  | Ronaldinho  | 3         |
| 7  | Leno        | 3         |
| 8  | Rooney      | 4         |
| 9  | Howard      | 4         |
| 10 | Bale        | 2         |
| 11 | Salah       | 2         |
| 12 | Neuer       | 2         |

The query uses the decode function to replace the team names with their Ranks. It basically extracts the player name and the rank of the team they play for.

7. .

```
--Jiyad ur Rehman
--7

CREATE TABLE faculty (f_id NUMBER(6), f_last VARCHAR2(30), f_first VARCHAR2(30), f_mi CHAR(1), loc_id NUMBER(5), f_phone VARCHAR2(10), f_rank VARCHAR2(9), f_super NUMBER(6), CONSTRAINT faculty_f_id_pk PRIMARY KEY(f_id));
INSERT INTO faculty VALUES (1, 'Marx', 'Teresa', 'J', 9, '4075921695', 'Associate', 4);
INSERT INTO faculty VALUES (2, 'Zhulin', 'Mark', 'M', 10, '4073875682', 'Full', NULL);
INSERT INTO faculty VALUES (3, 'Langley', 'Colin', 'A', 12, '4075928719', 'Assistant', 4);
INSERT INTO faculty VALUES (4, 'Brown', 'Jonnel', 'D', 11, '4078101155', 'Full', NULL);

select * from faculty;
```

--Jiyad ur Rehman

Script Output x Query Result x Query Result 1 x Query Result 2 x Query Result 3 x

SQL | All Rows Fetched: 4 in 0.044 seconds

|   | F_ID | F_LAST  | F_FIRST | F_MI | LOC_ID | F_PHONE    | F_RANK    | F_SUPER |
|---|------|---------|---------|------|--------|------------|-----------|---------|
| 1 | 1    | Marx    | Teresa  | J    | 9      | 4075921695 | Associate | 4       |
| 2 | 2    | Zhulin  | Mark    | M    | 10     | 4073875682 | Full      | (null)  |
| 3 | 3    | Langley | Colin   | A    | 12     | 4075928719 | Assistant | 4       |
| 4 | 4    | Brown   | Jonnel  | D    | 11     | 4078101155 | Full      | (null)  |

8. .

```
--Jiyad ur Rehman
--8

CREATE TABLE Bonus (f_id NUMBER(6), Bonus NUMBER(8,2) DEFAULT 1000, CONSTRAINT Bonus_f_id_pk PRIMARY KEY(f_id));

INSERT INTO Bonus (f_id) SELECT Distinct f_super FROM faculty WHERE f_super IS NOT NULL;

select * from Bonus;
```

--Jiyad ur Rehman

Script Output x Query Result x Query Result 1 x Query Result 2 x Query Result 3 x

SQL | All Rows Fetched: 1 in 0.156 seconds

|   | F_ID | BONUS |
|---|------|-------|
| 1 | 4    | 1000  |

9. .

```
--Jiyad ur Rehman
--9

INSERT INTO faculty VALUES (5, 'Sealy', 'James', 'L', 13, '4079817153', 'Associate', 1);
INSERT INTO faculty VALUES (6, 'Smith', 'John', 'D', 10, '4238102345', 'Full', NULL);

select * from faculty;
```

--Jiyad ur Rehman

Script Output x Query Result x Query Result 1 x Query Result 2 x Query Result 3 x

SQL | All Rows Fetched: 6 in 0.023 seconds

|   | F_ID | F_LAST  | F_FIRST | F_MI | LOC_ID | F_PHONE    | F_RANK    | F_SUPER |
|---|------|---------|---------|------|--------|------------|-----------|---------|
| 1 | 1    | Marx    | Teresa  | J    | 9      | 4075921695 | Associate | 4       |
| 2 | 2    | Zhulin  | Mark    | M    | 10     | 4073875682 | Full      | (null)  |
| 3 | 3    | Langley | Colin   | A    | 12     | 4075928719 | Assistant | 4       |
| 4 | 4    | Brown   | Jonnel  | D    | 11     | 4078101155 | Full      | (null)  |
| 5 | 5    | Sealy   | James   | L    | 13     | 4079817153 | Associate | 1       |
| 6 | 6    | Smith   | John    | D    | 10     | 4238102345 | Full      | (null)  |

10..

```
--Jiyad ur Rehman  
--10
```

```
MERGE INTO BONUS b USING  
(SELECT Distinct f_super FROM faculty WHERE f_super IS NOT NULL) f  
ON (b.f_id = f.f_super)  
WHEN MATCHED THEN  
UPDATE SET b.bonus = b.bonus*1.01  
WHEN NOT MATCHED THEN  
INSERT (f_id) VALUES (f.f_super);  
  
select * from Bonus;
```

| Script Output x   Query Result x   Query Result 1 x   Query Result 2 x   Query Result |      |       |
|---|------|-------|
| SQL   All Rows Fetched: 2 in 0.024 seconds  |      |       |
|   | F_ID | BONUS |
| 1   | 4    | 1010  |
| 2   | 1    | 1000  |

## CODE

```
CREATE TABLE PLAYER
(
  Player_ID NUMBER(4),
  Player_Name Varchar2(25),
  Player_Position char(2),
  Height NUMBER(4,1),
  DoB Date,
  Team_ID Number(4),
  Player_Type Char(10),

  CONSTRAINT Player_PlayerID_PK Primary KEY (Player_ID),
  CONSTRAINT Player_Type_ck CHECK (Player_Type IN ('Goalkeeper', 'Other'))

);
```

```
CREATE TABLE TEAM
(
  Team_ID Number(4),
  Team_Name Varchar2(25),
  Home_Ground VARCHAR2(25),
  Coach_ID Number(4) NOT NULL,

  CONSTRAINT Team_TeamID_PK Primary KEY (Team_ID),
  CONSTRAINT Team_CoachID_UK UNIQUE (Coach_ID)

);
```

```
CREATE TABLE TEAM_MATCH
(
  Team_ID Number(4),
  Match_ID Number(4),
  Goal_Scored Number(2) DEFAULT 0 NOT NULL,

  CONSTRAINT Team_Match_PK Primary KEY (Team_ID, Match_ID)

);
```

```
CREATE TABLE MATCH
(
  Match_ID Number(4),
  Winner Varchar2(25),
```

Match\_Date Date,

CONSTRAINT Match\_MatchID\_PK Primary KEY (Match\_ID)

);

CREATE TABLE COACH

(

Coach\_ID Number(4),

Coach\_Name Varchar2(25),

Join\_Date Date,

CONSTRAINT Coach\_CoachID\_PK Primary KEY (Coach\_ID)

);

CREATE TABLE COACH\_CERTIFICATION

(

Coach\_ID Number(4),

CERTIFICATION\_ID Number(4),

CONSTRAINT Coach\_Certification\_PK Primary KEY (Coach\_ID, CERTIFICATION\_ID)

);

CREATE TABLE CERTIFICATION

(

CERTIFICATION\_ID Number(4),

CERTIFICATION\_Name Varchar2(25),

CONSTRAINT Certification\_CertificationID\_PK Primary KEY (CERTIFICATION\_ID)

);

CREATE TABLE GOALKEEPER

(

Player\_ID NUMBER(4),

Diving Number(2),

CONSTRAINT GOALKEEPER\_PlayerID\_PK Primary KEY (Player\_ID)

);



```
CREATE TABLE OTHER
(
  Player_ID NUMBER(4),
  Agility Number(2),

  CONSTRAINT OTHER_PlayerID_PK Primary KEY (Player_ID)

);
```

-- ADDING FOREIGN KEYS

--Players

```
ALTER TABLE PLAYER
  ADD CONSTRAINT Player_TeamID_FK FOREIGN KEY (Team_ID)
    REFERENCES TEAM (Team_ID);
```

--Team

```
ALTER TABLE TEAM
  ADD CONSTRAINT Team_CoachID_FK FOREIGN KEY (Coach_ID)
    REFERENCES COACH (Coach_ID);
```

--Team\_Match

```
ALTER TABLE TEAM_MATCH
  ADD CONSTRAINT Team_Match_TeamID_FK FOREIGN KEY (Team_ID)
    REFERENCES TEAM (Team_ID);
```

ALTER TABLE TEAM\_MATCH

```
  ADD CONSTRAINT Team_Match_MatchID_FK FOREIGN KEY (Match_ID)
    REFERENCES MATCH (Match_ID);
```

--Coach\_Certification

```
ALTER TABLE Coach_Certification
  ADD CONSTRAINT Coach_Certification_CoachID_FK FOREIGN KEY (Coach_ID)
    REFERENCES COACH (Coach_ID);
```

ALTER TABLE Coach\_Certification

```
  ADD CONSTRAINT Coach_Certification_CertificationID_FK FOREIGN KEY (Certification_ID)
    REFERENCES CERTIFICATION (Certification_ID);
```

--Goalkeeper

```
ALTER TABLE Goalkeeper
  ADD CONSTRAINT Goalkeeper_PlayerID_FK FOREIGN KEY (Player_ID)
    REFERENCES PLAYER (Player_ID);
```

```

--Other
ALTER TABLE Other
  ADD CONSTRAINT Other_PlayerID_FK FOREIGN KEY (Player_ID)
    REFERENCES PLAYER (Player_ID);

--
*****
*****

-- INSERT COMMANDS
--
*****
*****

-- Coach

INSERT INTO COACH VALUES (1000, 'Zidane', '02-Jan-2019');

INSERT INTO COACH VALUES (1001, 'Beckham', '20-Feb-2019');

INSERT INTO COACH VALUES (1002, 'Carlos', '02-May-2019');

INSERT INTO COACH VALUES (1003, 'Fido', '18-Jun-2019');

-- Team

INSERT INTO TEAM VALUES (2000, 'ManU', 'Green', 1000);

INSERT INTO TEAM VALUES (2001, 'Barca', 'Blue', 1001);

INSERT INTO TEAM VALUES (2002, 'ManC', 'Red', 1002);

INSERT INTO TEAM VALUES (2003, 'Aston', 'White', 1003);

-- Match

INSERT INTO MATCH VALUES (3000, 'ManU', '01-Oct-2019');

INSERT INTO MATCH VALUES (3001, 'Barca', '02-Oct-2019');

-- Certification

INSERT INTO CERTIFICATION VALUES (4000, 'Attack');

```

```

INSERT INTO CERTIFICATION VALUES (4001, 'Defend');

INSERT INTO CERTIFICATION VALUES (4002, 'Mid');

-- Team_Match

INSERT INTO TEAM_MATCH VALUES (2000, 3000, 2);

INSERT INTO TEAM_MATCH VALUES (2003, 3000, 1);

INSERT INTO TEAM_MATCH VALUES (2001, 3001, 1);

INSERT INTO TEAM_MATCH VALUES (2002, 3001, 0);

-- Coach_Certification

INSERT INTO COACH_CERTIFICATION VALUES (1000, 4000);

INSERT INTO COACH_CERTIFICATION VALUES (1000, 4001);

INSERT INTO COACH_CERTIFICATION VALUES (1000, 4002);

INSERT INTO COACH_CERTIFICATION VALUES (1001, 4002);

INSERT INTO COACH_CERTIFICATION VALUES (1002, 4001);

INSERT INTO COACH_CERTIFICATION VALUES (1003, 4001);

INSERT INTO COACH_CERTIFICATION VALUES (1003, 4002);

-- Player

--          T1 2000
INSERT INTO PLAYER VALUES (0001, 'Ronaldo', 'CF', 182, '02-Jan-1982', 2000, 'Other');

INSERT INTO PLAYER VALUES (0002, 'Messi', 'LF', 184, '03-Feb-1982', 2000, 'Other');

INSERT INTO PLAYER VALUES (0003, 'Neymar', 'RM', 188, '22-Mar-1984', 2000, 'Other');

INSERT INTO PLAYER VALUES (0004, 'Kahn', 'GK', 181, '22-Jul-1984', 2000, 'Goalkeeper');

--          T2 2001

INSERT INTO PLAYER VALUES (0005, 'Pogba', 'LF', 183, '03-Feb-1982', 2001, 'Other');

```

INSERT INTO PLAYER VALUES (0006, 'Ronaldo', 'LM', 185, '22-Mar-1984', 2001, 'Other');

INSERT INTO PLAYER VALUES (0007, 'Leno', 'GK', 181, '22-Mar-1988', 2001, 'Goalkeeper');

-- T3 2002

INSERT INTO PLAYER VALUES (0008, 'Rooney', 'LM', 187, '01-Jan-1980', 2002, 'Other');

INSERT INTO PLAYER VALUES (0009, 'Howard', 'GK', 183, '20-Dec-1990', 2002, 'Goalkeeper');

-- T4 2003

INSERT INTO PLAYER VALUES (0010, 'Bale', 'CF', 184, '21-Oct-1988', 2003, 'Other');

INSERT INTO PLAYER VALUES (0011, 'Salah', 'LM', 189, '17-Nov-1994', 2003, 'Other');

INSERT INTO PLAYER VALUES (0012, 'Neuer', 'GK', 183, '29-Sep-1995', 2003, 'Goalkeeper');

-- Goalkeeper

INSERT INTO GOALKEEPER VALUES (0004, 95);

INSERT INTO GOALKEEPER VALUES (0007, 92);

INSERT INTO GOALKEEPER VALUES (0009, 98);

INSERT INTO GOALKEEPER VALUES (0012, 88);

-- Other

INSERT INTO OTHER VALUES (0001, 90);

INSERT INTO OTHER VALUES (0002, 91);

INSERT INTO OTHER VALUES (0003, 92);

INSERT INTO OTHER VALUES (0005, 98);

INSERT INTO OTHER VALUES (0006, 85);

INSERT INTO OTHER VALUES (0008, 82);

INSERT INTO OTHER VALUES (0010, 96);

```
INSERT INTO OTHER VALUES (0011, 96);
```

```
--
*****
*****
--
*****
*****
--      ASSIGNMENT 12
--
*****
*****
--
*****
*****
```

```
--Jiyad ur Rehman
```

```
--1
```

```
SELECT Player_Name, Height FROM PLAYER WHERE
Height > (SELECT Avg(Height) FROM PLAYER);
```

```
--Jiyad ur Rehman
```

```
--2
```

```
SELECT p.Player_Name, t.tn Team FROM Player p, (SELECT Team_Name tn, Team_Id tid FROM TEAM) t
WHERE
p.team_id = t.tid;
```

```
--Jiyad ur Rehman
```

```
--3
```

```
SELECT t.Team_Name, Avg(p.height) FROM Player p, team t WHERE
t.team_id = p.team_id
GROUP BY t.Team_Name HAVING Avg(p.height) >
(SELECT Avg(p.height) FROM Player p, team t WHERE
t.team_id = p.team_id AND Team_Name = 'Barca'
GROUP BY t.Team_Name);
```

```
--Jiyad ur Rehman
```

--4

```
SELECT t.Team_Name, Avg(p.height) FROM PLAYER p, Team t WHERE
p.team_id = t.team_id AND
DOB > ANY (SELECT DOB FROM PLAYER WHERE DOB > '01-JAN-83')
GROUP BY t.Team_Name
HAVING Avg(p.height) < ANY (SELECT Avg(Height) FROM PLAYER p1, Team t1 WHERE p1.team_id =
t1.team_id AND t1.Team_name LIKE 'M%' GROUP BY TEAM_NAME);
```

--Jiyad ur Rehman

--5

```
SELECT t.Team_Name, c.Coach_name, Round(Avg(Round(Months_Between(SYSDATE , p.DOB)/12))) Age
FROM PLayEr p, Team t, coach c WHERE
p.team_id = t.team_id AND
t.coach_id = c.coach_id AND
c.join_date > (SELECT join_date FROM coach WHERE coach_Name = 'Zidane')
```

```
GROUP BY t.team_name, c.coach_name;
```

--Query extract team name, coach name and avg age of that team (rounded off) for all the teams whose coaches joined the team after zidane joined his team as coach

--Jiyad ur Rehman

--6

```
Select p.Player_Name, TO_CHAR(DECODE(TEAM_NAME, 'ManU', 1,
                                     'Barca', 3,
                                     'ManC', 4,
                                     'Aston', 2,
                                     0)) "Team Rank"
FROM player p, team t WHERE
p.team_id=t.team_id;
```

--Jiyad ur Rehman

--7

```
CREATE TABLE faculty (f_id NUMBER(6), f_last VARCHAR2(30), f_first VARCHAR2(30), f_mi CHAR(1),
loc_id NUMBER(5), f_phone VARCHAR2(10), f_rank VARCHAR2(9), f_super NUMBER(6), CONSTRAINT
faculty_f_id_pk PRIMARY KEY(f_id));
INSERT INTO faculty VALUES (1, 'Marx', 'Teresa', 'J', 9, '4075921695', 'Associate', 4);
INSERT INTO faculty VALUES (2, 'Zhulin', 'Mark', 'M', 10, '4073875682', 'Full', NULL);
```

```
INSERT INTO faculty VALUES (3, 'Langley', 'Colin', 'A', 12, '4075928719', 'Assistant', 4);
INSERT INTO faculty VALUES (4, 'Brown', 'Jonnel', 'D', 11, '4078101155', 'Full', NULL);
```

```
select * from faculty;
```

```
--Jiyad ur Rehman
```

```
--8
```

```
CREATE TABLE Bonus (f_id NUMBER(6), Bonus NUMBER(8,2) DEFAULT 1000, CONSTRAINT
Bonus_f_id_pk PRIMARY KEY(f_id));
```

```
INSERT INTO Bonus (f_id) SELECT Distinct f_super FROM faculty WHERE f_super IS NOT NULL;
```

```
select * from Bonus;
```

```
--Jiyad ur Rehman
```

```
--9
```

```
INSERT INTO faculty VALUES (5, 'Sealy', 'James', 'L', 13, '4079817153', 'Associate', 1);
```

```
INSERT INTO faculty VALUES (6, 'Smith', 'John', 'D', 10, '4238102345', 'Full', NULL);
```

```
select * from faculty;
```

```
--Jiyad ur Rehman
```

```
--10
```

```
MERGE INTO BONUS b USING
(SELECT Distinct f_super FROM faculty WHERE f_super IS NOT NULL) f
ON (b.f_id = f.f_super)
WHEN MATCHED THEN
UPDATE SET b.bonus = b.bonus*1.01
WHEN NOT MATCHED THEN
INSERT (f_id) VALUES (f.f_super);
```

```
select * from Bonus;
```

```
DROP TABLE Bonus CASCADE CONSTRAINTS;
```

```
DROP TABLE faculty CASCADE CONSTRAINTS;
```

```
--
```

```
*****
*****
```

```
--
*****
*****
```

-- DROP Commands

```
DROP TABLE PLAYER CASCADE CONSTRAINTS;
DROP TABLE TEAM CASCADE CONSTRAINTS;
DROP TABLE COACH CASCADE CONSTRAINTS;
DROP TABLE TEAM_MATCH CASCADE CONSTRAINTS;
DROP TABLE MATCH CASCADE CONSTRAINTS;
DROP TABLE COACH_CERTIFICATION CASCADE CONSTRAINTS;
DROP TABLE CERTIFICATION CASCADE CONSTRAINTS;
DROP TABLE GOALKEEPER CASCADE CONSTRAINTS;
DROP TABLE OTHER CASCADE CONSTRAINTS;
```