DATABASE PROJECT REPORT

BRANDON DOOLEY

#16327446

TRINITY COLLEGE DUBLIN

Introduction

As part of the CS3041 Information Management database design project I decided to model a database representing the top 10 teams in the Barclays Premier League as of Thursday the 1st November 2018.

The relational tables that I chose to model are as follows:

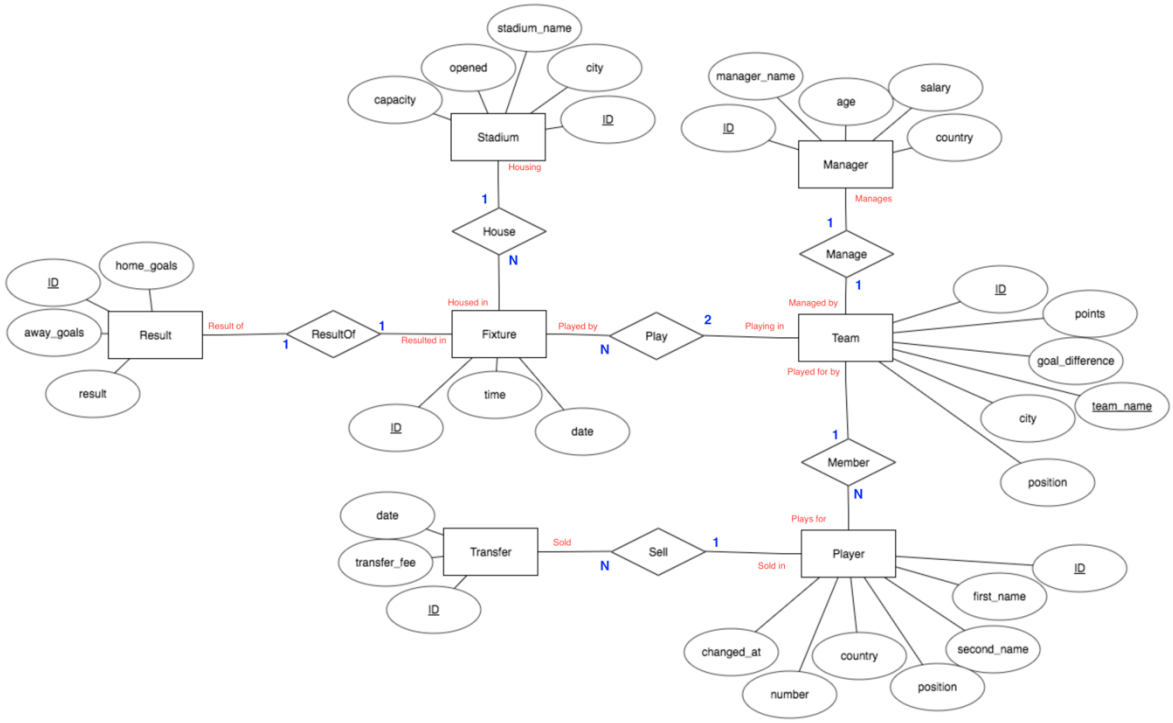
- Fixtures
- Managers
- Players
- Stadiums
- Teams
- Transfers

Within the database I modelled all fixtures from Sunday 11th up to Saturday the 8th of December. This was done to allow for me to continuously input the results of these fixtures into the database in order to demonstrate the use of my designed triggers and the effect they have on other relations within the database.

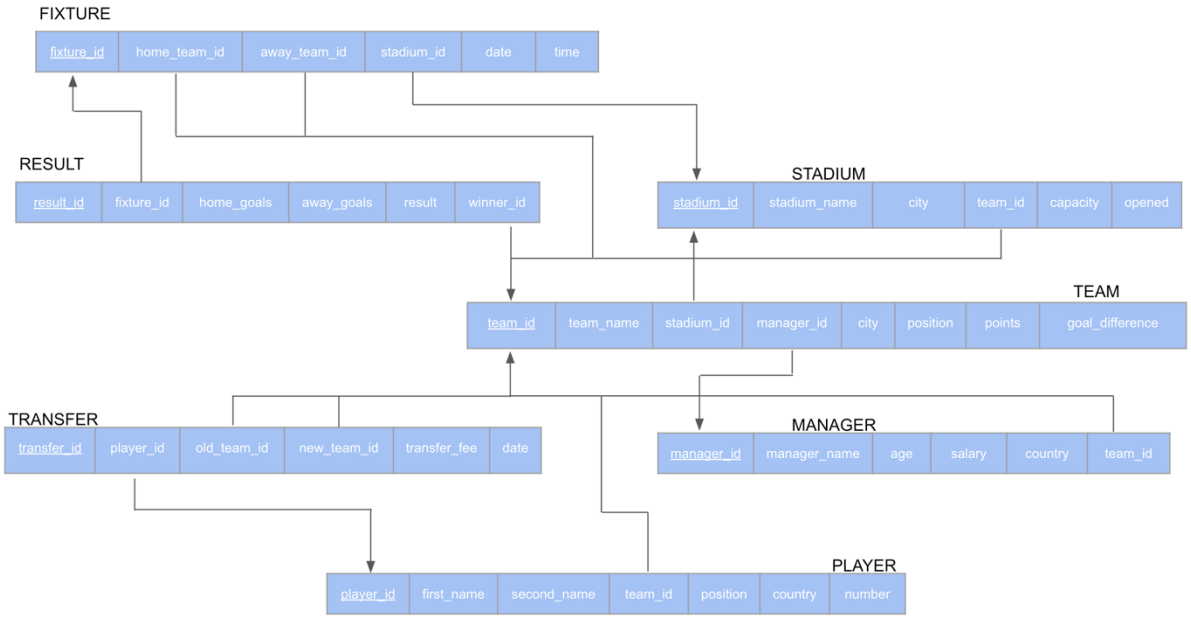
Within the players table I modelled five players from each of the teams including a goalkeeper, defender, midfielder and two forwards for each team. The data regarding stadiums and managers is valid as of Sunday 11th of November.

All data regarding transfers is fictional and does not represent any real transfer that has occurred in the premier league within this period. They also solely serve the purpose of demonstrating the use of the designed triggers and their respective effects.

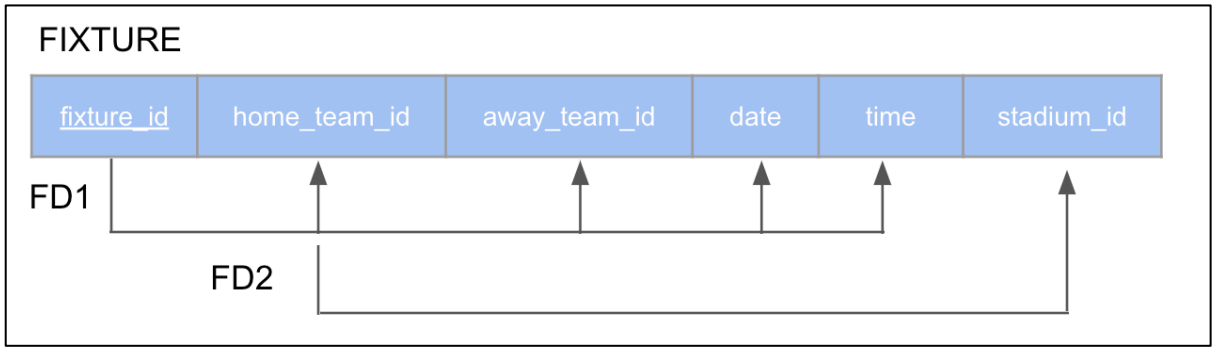
Entity Relationship Diagram



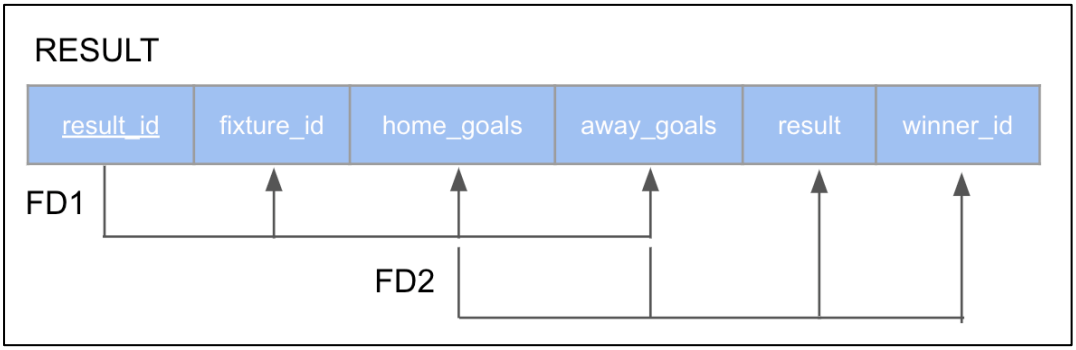
Relational Schema Diagram



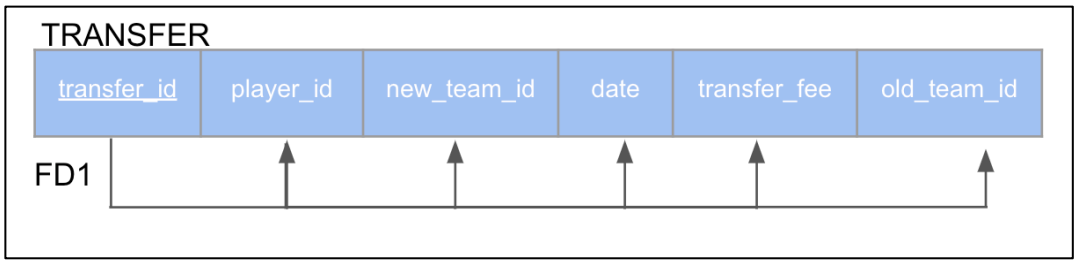
Functional Dependency Diagrams



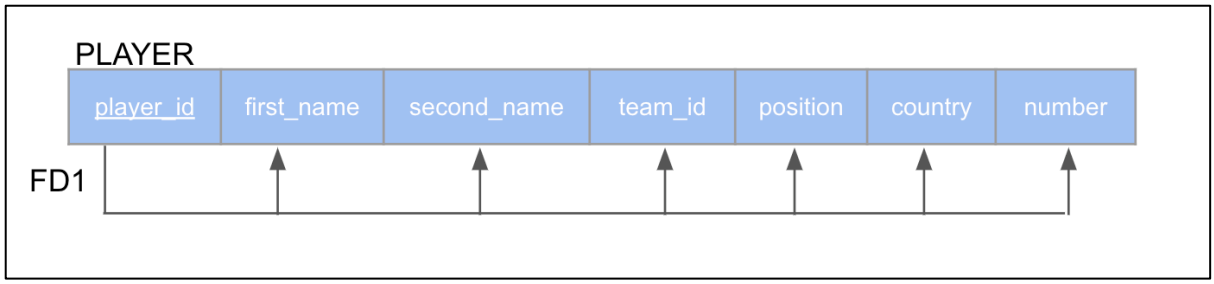
- Primary Key: fixture_id
- Foreign Keys: {home_team_id, away_team_id, stadium_id}



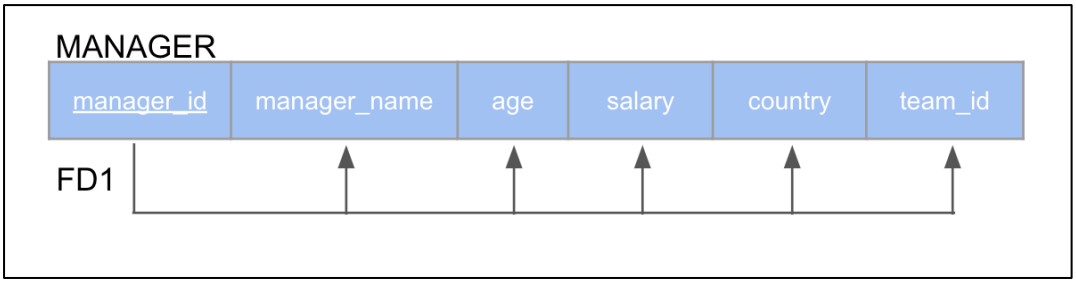
- Primary Key: result_id
- Foreign Keys: {fixture_id, winner_id}



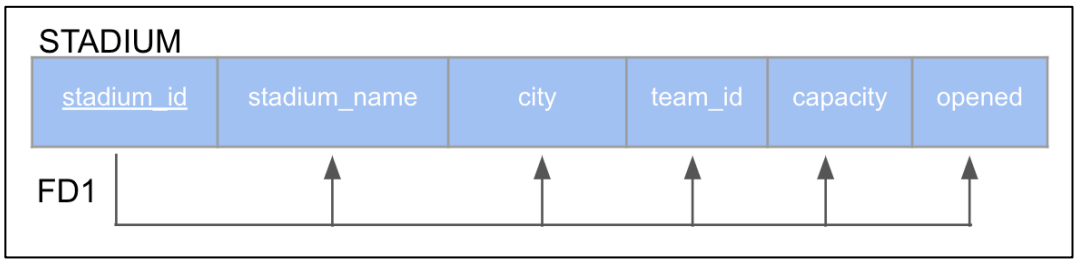
- Primary Key: transfer_id
- Foreign Keys: {player_id, new_team_id, old_team_id}



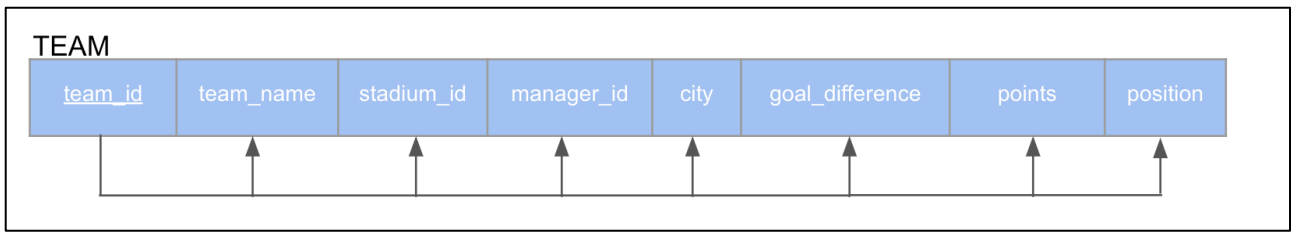
- Primary Key: player_id
- Foreign Keys: {team_id}



- Primary Key: manager_id
- Foreign Keys: {team_id}



- Primary Key: stadium_id
- Foreign Keys: {team_id}



- Primary Key: team_id
- Foreign Keys: {stadium_id, manager_id}

Semantic Constraints

Fixture	
Attribute	Constraints
fixture_id (PK)	Int (11), NOT NULL, AUTO_INCREMENT, UNIQUE
home_team_id (FK)	Smallint (6), NOT NULL
away_team_id (FK)	Smallint (6), NOT NULL
stadium_id (FK)	Smallint (6), NOT NULL
date	Date, NOT NULL
time	Time, NOT NULL

home_team_id (FK) -> Team.team_id
away_team_id (FK) -> Team.team_id
stadium_id (FK) -> Stadium.stadium_id

For *fixture_id* I chose to use int() as the storage type since there could be over 32,767 entries of fixtures which is the maximum provided by smallint(). I chose to use the Date and Time data types to store the date and time of a fixture as they would ensure the validity of their formatting.

Player	
Attribute	Constraints
player_id (PK)	Int (11), NOT NULL, AUTO_INCREMENT, UNIQUE
first_name	Varchar(15), NOT NULL
second_name	Varchar(15), NOT NULL
position	Varchar(10), NOT NULL
country	Varchar(10), NOT NULL
team_id (FK)	Smallint (6), NOT NULL
number	Tinyint(4) NOT NULL

team_id (FK) -> Team.team_id

For *player_id* I chose to use int() as the storage type since there could be over 32,767 entries of players which is the maximum provided by smallint(). I chose to use varchar of size 15 and 10 to represent player names, positions and countries and I felt this size would suffice. For *team_id* I used smallint() as I believe there will be less than 32,767 entries of teams.

Manager	
Attribute	Constraints
manager_id (PK)	smallint (6), NOT NULL, AUTO_INCREMENT, UNIQUE
manager_name	Varchar(25), NOT NULL
age	Tinyint (4), NOT NULL
salary	Int (11), NOT NULL
country	Varchar(10), NOT NULL
team_id (FK)	Smallint (6), NOT NULL

team_id (FK) -> Team.team_id

For *manager_id* I chose to use int() as the storage type since there could be over 32,767 entries of managers which is the maximum provided by smallint(). For *age* I used tinyint() as it is extremely unlikely a manager will be older than 255. For *salary* I used an int() as a managers salary is likely to be over £32,767.

Result	
Attribute	Constraints
result_id (PK)	Int (11), NOT NULL, AUTO_INCREMENT, UNIQUE
fixture_id (FK)	Int (11), NOT NULL
home_goals	Tinyint (4), NOT NULL
away_goals	Tinyint (4), NOT NULL
result	Varchar(4), NOT NULL
winner_id (FK)	Smallint (6), NOT NULL

fixture_id (FK) -> Fixture.fixture_id
winner_id (FK) -> Teams.team_id

For *result_id* I chose to use int() as the storage type since there could be over 32,767 entries of results which is the maximum provided by smallint(). For *home_goals* and *away_goals* I used tinyint() as it is extremely unlikely a given team will score more than 255 goals. For *result* I limited the varchar() storage type to 4 characters as a result will be either ‘win’ or ‘draw’.

Stadium

Attribute	Constraints
stadium_id (PK)	Smallint (6), NOT NULL, AUTO_INCREMENT, UNIQUE
stadium_name	Varchar (25), NOT NULL
city	Varchar (25), NOT NULL
capacity	Int (11), NOT NULL
opened	Smallint(6), NOT NULL
team_id (FK)	Smallint (6), NOT NULL

team_id (FK) -> Team.team_id

For *stadium_id* I chose to use smallint() as the storage type since it is unlikely for there to be over 32,767 entries of stadiums which is the maximum provided by smallint(). For *opened* I used smallint() instead of year since year only supports values after 1901 and some stadiums in the premier league were older than this.

Team

Attribute	Constraints
team_id (PK)	Smallint (6), NOT NULL, AUTO_INCREMENT, UNIQUE
team_name	Varchar (25), NOT NULL
stadium_id (FK)	Smallint (6), NOT NULL
manager_id (FK)	Smallint (6), NOT NULL
city	Varchar (25), NOT NULL
position	Tinyint (4), NOT NULL
points	Tinyint (4), NOT NULL
goal_difference	Smallint (6), NOT NULL

stadium_id (FK) -> Stadium.stadium_id
manager_id (FK) -> Manager.manager_id

For *team_id* I chose to use smallint() as the storage type since it is unlikely for there to be over 32,767 entries of teams which is the maximum provided by smallint(). For *position* I used tinyint() as players numbers don't tend to be more than 255. For *goal_difference* I used smallint() as I needed the smallest data type available to support negative numbers.

Transfer	
Attribute	Constraints
transfer_id (PK)	Smallint (6), NOT NULL, AUTO_INCREMENT, UNIQUE
player_id (FK)	Int (11), NOT NULL
old_team_id (FK)	Smallint (6), NOT NULL
new_team_id (FK)	Smallint (6), NOT NULL
transfer_fee	Int (11), NOT NULL
date	Date, NOT NULL

player_id (FK) -> Player.player_id
new_team_id (FK) -> Team.team_id
old_team_id (FK) -> Team.team_id

For *transfer_id* I chose to use smallint() as the storage type since it is unlikely for there to be over 32,767 entries of transfers which is the maximum provided by smallint(). For *transfer_fee* I used int() as transfer fees tend to be in the millions and this was the smallest data type that supported a suitable range.

All of the above data types and constraints were chosen in order to:

1. Use minimal storage
2. Ensure validity of data entries
3. Ensure consistency across all relations

Database Security

The Database Security policy that I decided to implement was composed of three levels of users.

1. *Admin*: Full admin access to all tables and schemas within the database.
2. *Read-only*: Read only access to all tables and schemas within the database.
3. *Clerk*: User with INSERT, SELECT, UPDATE and DELETE privileges to a specific table within the schema.

Clerks would be allowed access for example to input results to fixtures within the premier league whilst not being allowed access to any other data within the database. Read-only accounts are able to see all data within the database whilst not being able to edit or insert any entries. Admins have full access to all tables within the database.

Examples of the above users and how they were created are detailed below:

Admin

User name: *admin_rw*

Creation command: `CREATE USER 'admin_rw'@'%' IDENTIFIED BY 'pw'`

Privileges command: `GRANT ALL PRIVILEGES ON *.* TO 'admin_rw'@'%'`

Read-only

User name: *prem-read-only*

Creation command: `CREATE USER 'prem-read-only'@'%' IDENTIFIED BY 'pw'`

Privileges command: `GRANT SELECT ON *.* TO 'prem-read-only'@'%'`

Clerk

User name: *result-clerk*

Creation command: `CREATE USER 'result-clerk'@'%' IDENTIFIED BY 'pw'`

Privileges command: `GRANT SELECT, INSERT, UPDATE, DELETE ON Result TO 'result-clerk'@'%'`

View Creation

The views that I decided to implement all span across multiple tables pulling the referenced data for each foreign key within a table. They are as follows:

1. *Managers_overview*: Overview of the premier-league managers.
2. *Players_overview*: Overview of the premier-league players.
3. *Teams_overview*: Overview of the premier-league teams.

Examples of the above views were created are detailed below:

Managers_overview

```
CREATE VIEW managers_overview AS
SELECT m.manager_name, m.country, t.team_name
FROM Team t, Manager m
WHERE t.team_id = m.team_id
```

Players_overview

```
CREATE VIEW players_overview AS
SELECT concat(p.first_name, ' ', p.second_name) as player_name,
t.team_name, p.position, p.country, p.number
FROM Team t, Player p
WHERE t.team_id = p.team_id
```

Teams_overview

```
CREATE VIEW teams_overview AS
SELECT t.team_name, m.manager_name, s.stadium_name, t.position,
t.points
FROM Team t, Manager m, Stadium s
WHERE t.team_id = m.team_id
AND t.team_id = s.team_id
```

Relational Selects

Select all players from England

```
SELECT * FROM Player WHERE country='England';
```

Select all fixtures in Old Trafford

```
SELECT * FROM Fixture WHERE stadium_id=( SELECT stadium_id
FROM Stadium WHERE stadium_name = 'Old Trafford');
```

Select all stadiums with a capacity of more than 50,000 people

```
SELECT * FROM Stadium WHERE capacity>50000;
```

Table Joins

Team name and manager using join

```
SELECT Team.team_name, Manager.manager_name
FROM Team
INNER JOIN Manager ON Team.team_id = Manager.team_id
```

All fixture id's of a teams home games

```
SELECT Team.team_name, Fixture.fixture_id
FROM Team
LEFT JOIN Fixture ON Team.team_id = Fixture.home_team_id
```

Update Operations

Update time and date of a fixture

```
Update Fixture
SET Time = x, Date = y
WHERE fixture_id = z;
```

Update a player's salary

```
Update Player
SET Salary = x
WHERE player_id = y;
```

Triggers

Trigger to process a players transfer

DELIMITER $$

```
CREATE TRIGGER process_player_transfer AFTER INSERT ON Transfer
  FOR EACH ROW
BEGIN
  UPDATE Player
  SET team_id = NEW.new_team_id
  WHERE player_id = NEW.player_id;
END$$
```

DELIMITER ;

Trigger to process a fixture win

DELIMITER $$

```
CREATE TRIGGER process_fixture_win AFTER INSERT ON Result
  FOR EACH ROW
BEGIN
  IF NEW.result = 'win' THEN
    UPDATE Team
    SET points = points+3
    WHERE team_id = NEW.winner_id;
END$$
```

DELIMITER ;

Trigger to process a new manager

DELIMITER $$

```
CREATE TRIGGER process_new_manager AFTER INSERT ON Manager
  FOR EACH ROW
BEGIN
    UPDATE Team
    SET manager_id = NEW.manager_id
    WHERE team_id = NEW.team_id;
END$$
```

DELIMITER ;

Additional Features

Trigger to handle goal difference calculation (uses variables)

DELIMITER $$

```
CREATE TRIGGER process_fixture_goal_difference AFTER INSERT ON Result
  FOR EACH ROW
BEGIN
  IF NEW.result = 'win' THEN
    SET @home_team_for_fixture := (SELECT home_team_id FROM Fixture WHERE
fixture_id = NEW.fixture_id);
    SET @away_team_for_fixture := (SELECT away_team_id FROM Fixture WHERE
fixture_id = NEW.fixture_id);
    IF NEW.winner_id = @home_team_for_fixture THEN
      UPDATE Team SET goal_difference = goal_difference + (NEW.home_goals
- NEW.away_goals) WHERE team_id = @home_team_for_fixture;
       UPDATE Team SET goal_difference = goal_difference - (NEW.home_goals
- NEW.away_goals) WHERE team_id = @awaye_team_for_fixture;
    ELSEIF NEW.winner_id = @away_team_for_fixture THEN
      UPDATE Team SET goal_difference = goal_difference -(NEW.away_goals -
NEW.home_goals) WHERE team_id = @home_team_for_fixture;
       UPDATE Team SET goal_difference = goal_difference + (NEW.away_goals
- NEW.home_goals) WHERE team_id = @awaye_team_for_fixture;
    END IF;
  END IF;
END$$
```

DELIMITER ;

Appendix

Data Definition Commands (Tables)

```
DROP TABLE IF EXISTS `Fixture`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
 SET character_set_client = utf8mb4 ;
CREATE TABLE `Fixture` (
  `fixture_id` int(11) NOT NULL AUTO_INCREMENT,
  `home_team_id` smallint(6) NOT NULL,
  `away_team_id` smallint(6) NOT NULL,
  `stadium_id` smallint(6) NOT NULL,
  `date` date NOT NULL,
  `time` time NOT NULL,
  PRIMARY KEY (`fixture_id`),
  UNIQUE KEY `fixture_id_UNIQUE` (`fixture_id`),
  CONSTRAINT `FK_Fixtures_Away_Team_Id` FOREIGN KEY (`away_team_id`)
REFERENCES `team` (`team_id`),
  CONSTRAINT `FK_Fixtures_Home_Team_Id` FOREIGN KEY (`home_team_id`)
REFERENCES `team` (`team_id`),
  CONSTRAINT `FK_Fixtures_Stadium_Id` FOREIGN KEY (`stadium_id`) REFERENCES
`stadium` (`stadium_id`)
) ENGINE=InnoDB AUTO_INCREMENT=21 DEFAULT CHARSET=utf8;
/*!40101 SET character_set_client = @saved_cs_client */;
```

```
DROP TABLE IF EXISTS `Manager`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
 SET character_set_client = utf8mb4 ;
CREATE TABLE `Manager` (
  `manager_id` smallint(6) NOT NULL AUTO_INCREMENT,
  `manager_name` varchar(25) NOT NULL,
  `age` tinyint(4) NOT NULL,
  `salary` int(11) NOT NULL,
  `country` varchar(10) NOT NULL,
  `team_id` smallint(6) NOT NULL,
  PRIMARY KEY (`manager_id`),
  UNIQUE KEY `manager_id_UNIQUE` (`manager_id`),
  CONSTRAINT `FK_Managers_Team_Id` FOREIGN KEY (`team_id`) REFERENCES
`team` (`team_id`)
) ENGINE=InnoDB AUTO_INCREMENT=13 DEFAULT CHARSET=utf8;
/*!40101 SET character_set_client = @saved_cs_client */;
```

```
DROP TABLE IF EXISTS `Player`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
 SET character_set_client = utf8mb4 ;
CREATE TABLE `Player` (
  `player_id` int(11) NOT NULL AUTO_INCREMENT,
  `first_name` varchar(15) NOT NULL,
  `second_name` varchar(15) NOT NULL,
  `team_id` smallint(6) NOT NULL,
  `position` varchar(10) NOT NULL,
  `country` varchar(25) NOT NULL,
  `number` varchar(3) NOT NULL,
  PRIMARY KEY (`player_id`),
  UNIQUE KEY `player_id_UNIQUE` (`player_id`),
  CONSTRAINT `FK_Players_Team_Id` FOREIGN KEY (`team_id`) REFERENCES
`team` (`team_id`)
) ENGINE=InnoDB AUTO_INCREMENT=51 DEFAULT CHARSET=utf8;
/*!40101 SET character_set_client = @saved_cs_client */;
```

```
DROP TABLE IF EXISTS `Result`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
 SET character_set_client = utf8mb4 ;
CREATE TABLE `Result` (
  `result_id` int(11) NOT NULL AUTO_INCREMENT,
  `fixture_id` int(11) NOT NULL,
  `home_goals` tinyint(4) NOT NULL,
  `away_goals` tinyint(4) NOT NULL,
  `result` varchar(4) NOT NULL,
  `winner_id` smallint(6) DEFAULT NULL,
  PRIMARY KEY (`result_id`),
  UNIQUE KEY `id_UNIQUE` (`result_id`),
  CONSTRAINT `FK_Results_Fixture_Id` FOREIGN KEY (`fixture_id`) REFERENCES
`fixture` (`fixture_id`),
  CONSTRAINT `FK_Results_Winner_Id` FOREIGN KEY (`winner_id`) REFERENCES
`team` (`team_id`)
) ENGINE=InnoDB AUTO_INCREMENT=12 DEFAULT CHARSET=utf8;
/*!40101 SET character_set_client = @saved_cs_client */;
```

```
DROP TABLE IF EXISTS `Stadium`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
 SET character_set_client = utf8mb4 ;
CREATE TABLE `Stadium` (
  `stadium_id` smallint(6) NOT NULL AUTO_INCREMENT,
  `stadium_name` varchar(25) NOT NULL,
  `city` varchar(25) DEFAULT NULL,
  `team_id` smallint(6) DEFAULT NULL,
  `capacity` int(11) DEFAULT NULL,
  `opened` int(11) DEFAULT NULL,
  PRIMARY KEY (`stadium_id`),
  UNIQUE KEY `stadium_id_UNIQUE` (`stadium_id`),
  CONSTRAINT `FK_Stadiums_Team_Id` FOREIGN KEY (`team_id`) REFERENCES
`team` (`team_id`)
) ENGINE=InnoDB AUTO_INCREMENT=11 DEFAULT CHARSET=utf8;
/*!40101 SET character_set_client = @saved_cs_client */;
```

```
DROP TABLE IF EXISTS `Team`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
 SET character_set_client = utf8mb4 ;
CREATE TABLE `Team` (
  `team_id` smallint(6) NOT NULL AUTO_INCREMENT,
  `team_name` varchar(25) NOT NULL,
  `stadium_id` smallint(6) DEFAULT NULL,
  `manager_id` smallint(6) DEFAULT NULL,
  `city` varchar(25) NOT NULL,
  `position` tinyint(4) NOT NULL,
  `points` tinyint(4) NOT NULL,
  `goal_difference` smallint(6) NOT NULL,
  PRIMARY KEY (`team_id`),
  UNIQUE KEY `team_id_UNIQUE` (`team_id`),
  CONSTRAINT `FK_Teams_Manager_Id` FOREIGN KEY (`manager_id`) REFERENCES
`manager` (`manager_id`),
  CONSTRAINT `FK_Teams_Stadium_Id` FOREIGN KEY (`stadium_id`) REFERENCES
`stadium` (`stadium_id`)
) ENGINE=InnoDB AUTO_INCREMENT=11 DEFAULT CHARSET=utf8;
/*!40101 SET character_set_client = @saved_cs_client */;
```

```
DROP TABLE IF EXISTS `Transfer`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
 SET character_set_client = utf8mb4 ;
CREATE TABLE `Transfer` (
  `transfer_id` int(11) NOT NULL,
  `player_id` int(11) DEFAULT NULL,
  `old_team_id` smallint(6) DEFAULT NULL,
  `new_team_id` smallint(6) DEFAULT NULL,
  `transfer_fee` int(11) DEFAULT NULL,
  `date` date DEFAULT NULL,
  PRIMARY KEY (`transfer_id`),
  KEY `Transfers - Player Id_idx` (`player_id`),
  KEY `Transfers - Old Team Id_idx` (`old_team_id`),
  KEY `Transfers - New Team Id_idx` (`new_team_id`),
  CONSTRAINT `FK_Transfers_New_Team_Id` FOREIGN KEY (`new_team_id`)
REFERENCES `team` (`team_id`),
  CONSTRAINT `FK_Transfers_Old_Team_Id` FOREIGN KEY (`old_team_id`)
REFERENCES `team` (`team_id`),
  CONSTRAINT `FK_Transfers_Player_Id` FOREIGN KEY (`player_id`) REFERENCES
`player` (`player_id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8;
/*!40101 SET character_set_client = @saved_cs_client */;
```

Database Population Commands (Values)

```
LOCK TABLES `Fixture` WRITE;
/*!40000 ALTER TABLE `Fixture` DISABLE KEYS */;
INSERT INTO `Fixture` VALUES (1,1,6,3,'2017-12-01','16:30:00'),(2,1,8,3,'2017-11-
11','16:30:00'),(3,1,10,3,'2017-11-24','16:30:00'),(4,2,10,2,'2017-11-
11','16:30:00'),(5,3,2,8,'2017-11-24','14:15:00'),(6,3,4,8,'2017-11-
11','14:15:00'),(7,3,5,8,'2017-12-08','16:30:00'),(8,3,6,8,'2017-12-
08','12:00:00'),(9,4,1,5,'2017-12-08','16:30:00'),(10,4,8,5,'2017-11-
24','16:30:00'),(11,5,9,1,'2017-11-11','12:00:00'),(12,6,5,4,'2017-11-
11','16:30:00'),(13,6,7,4,'2017-11-11','16:30:00'),(14,7,4,7,'2017-12-
01','12:00:00'),(15,7,9,7,'2017-11-24','12:00:00'),(16,8,2,10,'2017-12-
01','14:15:00'),(17,8,7,10,'2017-12-08','14:15:00'),(18,9,3,9,'2017-12-
01','16:30:00'),(19,9,10,9,'2017-12-08','16:30:00'),(20,10,5,6,'2017-12-01','16:30:00');
/*!40000 ALTER TABLE `Fixture` ENABLE KEYS */;
UNLOCK TABLES;
```

```
LOCK TABLES `Manager` WRITE;
/*!40000 ALTER TABLE `Manager` DISABLE KEYS */;
INSERT INTO `Manager` VALUES (1,'Eddie Howe',40,500000,'England',2),(2,'Javie
Gracia',48,4000000,'Spain',9),(3,'José Mourinho',55,15000000,'Portugal',7),(4,'Josep
Guardiola',47,15300000,'Spain',6),(5,'Jürgen Klopp',51,7000000,'Germany',5),(6,'Marco
Silva',41,3000000,'Portugal',4),(7,'Mauricio Pochettino
',46,8500000,'Argentina',8),(8,'Maurizio Sarri',59,4500000,'Italy',3),(9,'Nuno Espírito
Santo',44,3000000,'Portugal',10),(10,'Unai Emery',46,6000000,'Spain',1);
/*!40000 ALTER TABLE `Manager` ENABLE KEYS */;
UNLOCK TABLES;
```

```
LOCK TABLES `Player` WRITE;
/*!40000 ALTER TABLE `Player` DISABLE KEYS */;
INSERT INTO `Player` VALUES
(1,'Aaron','Ramsey',1,'Midfielder','Wales','8'),(2,'Alexandre','Lacazette',1,'Forward','France','9'
),(3,'Alexis','Sanchez',7,'Forward','Chile','7'),(4,'Álvaro','Morata',10,'Forward','Spain','29'),(5,'
Artur','Boruc',2,'Goalkeeper','Poland','1'),(6,'Ben','Ashley-
Seal',3,'Forward','England','24'),(7,'Cenk','Tosun',4,'Forward','Turkey','14'),(8,'Claudio','Bravo'
,6,'Goalkeeper','Chile','1'),(9,'Daniel','Drinkwater',3,'Midfielder','England','6'),(10,'Danny','We
lbeck',7,'Forward','England','23'),(11,'David','de
Gea',7,'Goalkeeper','Spain','1'),(12,'Dejan','Lovren',8,'Defender','Croatia','6'),(13,'Diogo','Jota',
10,'Midfielder','Portugal','18'),(14,'Eden','Hazard',3,'Forward','Belgium','10'),(15,'Fabian','Del
ph',6,'Midfielder','England','18'),(16,'Fernando','Llorente',8,'Forward','Spain','18'),(17,'Gabriel'
,'Jesus',6,'Forward','Brazil','33'),(18,'Harry','Kane',8,'Forward','England','10'),(19,'Heurelho','G
omes',9,'Goalkeeper','Brazil','1'),(20,'Hugo','Lloris',8,'Goalkeeper','France','1'),(21,'James','Mil
ner',6,'Midfielder','England','7'),(22,'Jermain','Defoe',2,'Forward','England','18'),(23,'John','Ru
ddy',10,'Goalkeeper','England','21'),(24,'Jordan','Pickford',4,'Goalkeeper','England','1'),(25,'Jo
shua','King',2,'Forward','Norway','17'),(26,'Kieran','Trippier',8,'Defender','England','2'),(27,'Lé
o','Bonatini',10,'Forward','Brazil','33'),(28,'Marcus','Rashford',7,'Forward','England','10'),(29,'
Marcus','Rojo',7,'Defender','Argentina','16'),(30,'Marouane','Fellaini',1,'Midfielder','Belgium','
27'),(31,'Matt','Doherty',10,'Defender','Ireland','2'),(32,'Miguel','Britos',9,'Defender','Uruguay',
'3'),(33,'Mohamed','Salah',5,'Forward','Egypt','11'),(34,'Morgan','Schneiderlin',4,'Midfielder','
France','18'),(35,'Moussa','Sissoko',0,'Midfielder','France','17'),(36,'Nathan','Aké',2,'Defender',
'Netherlands','5'),(37,'Oumar','Niasse',4,'Forward','Senegal','34'),(38,'Petr','Cech',1,'Goalkeepe
r','Czech
Republic','1'),(39,'Raheem','Sterling',6,'Forward','England','7'),(40,'Rob','Holding',1,'Defender'
,'England','16'),(41,'Roberto','Firmino',5,'Forward','Brazil','9'),(42,'Ryan','Fraser',5,'Midfielder'
,'Scotland','24'),(43,'Seamus','Coleman',4,'Defender','Ireland','23'),(44,'Simon','Mignolet',5,'Go
alkeeper','Belgium','22'),(45,'Stefano','Okaka',9,'Forward','Italy','33'),(46,'Tom','Cleverly',9,'M
idfielder','England','8'),(47,'Troy','Deeney',9,'Forward','England','9'),(48,'Victor','Moses',3,'Def
ender','Nigeria','15'),(49,'Vincent','Kompany',6,'Defender','Belgium','4'),(50,'Willy','Caballero'
,3,'Goalkeeper','Argentina','13');
/*!40000 ALTER TABLE `Player` ENABLE KEYS */;
UNLOCK TABLES;
```

```
LOCK TABLES `Result` WRITE;
/*!40000 ALTER TABLE `Result` DISABLE KEYS */;
INSERT INTO `Result` VALUES
(1,1,3,1,'win',1),(2,2,1,4,'win',8),(3,4,1,4,'win',10),(4,6,0,0,'draw',NULL),(5,11,1,0,'win',5),(6,
12,2,1,'win',6),(7,13,0,3,'win',7),(8,3,2,2,'draw',NULL),(9,5,4,3,'win',3),(10,10,1,1,'draw',NU
LL),(11,15,1,0,'win',7);
/*!40000 ALTER TABLE `Result` ENABLE KEYS */;
UNLOCK TABLES;
```

```
LOCK TABLES `Stadium` WRITE;
/*!40000 ALTER TABLE `Stadium` DISABLE KEYS */;
INSERT INTO `Stadium` VALUES (1,'Anfield','Liverpool',5,54074,1884),(2,'Dean
Court','Bournemouth',2,11360,1910),(3,'Emirates Stadium','London',1,59867,2006),(4,'Etihad
Stadium','Manchester',6,55097,2003),(5,'Goodison
Park','Liverpool',4,39571,1892),(6,'Molineux
Stadium','Wolverhampton',10,31700,1889),(7,'Old
Trafford','Manchester',7,75643,1910),(8,'Stamford
Bridge','London',3,41631,1877),(9,'Vicarage Road','Watford',9,21977,1922),(10,'Wembley
Stadium','London',8,90000,2007);
/*!40000 ALTER TABLE `Stadium` ENABLE KEYS */;
UNLOCK TABLES;
```

```
LOCK TABLES `Team` WRITE;
/*!40000 ALTER TABLE `Team` DISABLE KEYS */;
INSERT INTO `Team` VALUES
(1,'Arsenal',3,10,'London',3,28,12),(2,'Bournemouth',2,1,'Bournemouth',8,20,3),(3,'Chelsea',8
,8,'London',4,27,18),(4,'Everton',5,6,'Liverpool',9,15,2),(5,'Liverpool',1,5,'Liverpool',2,29,16),
(6,'Manchester City',4,3,'Manchester',1,29,18),(7,'Manchester
United',7,4,'Manchester',6,23,4),(8,'Tottenham
Hotspur',10,7,'London',5,27,11),(9,'Watford',9,2,'Watford',9,19,2),(10,'Wolverhampton
Wanderers',6,9,'Wolverhampton',7,21,3);
/*!40000 ALTER TABLE `Team` ENABLE KEYS */;
UNLOCK TABLES;
```

```
LOCK TABLES `Transfer` WRITE;
/*!40000 ALTER TABLE `Transfer` DISABLE KEYS */;
INSERT INTO `Transfer` VALUES (1,1,1,2,5000000,'2018-11-06'),(2,1,2,1,5000000,'2018-
11-06'),(3,10,1,7,110000000,'2018-11-20'),(4,30,7,1,85000000,'2018-11-
20'),(5,12,5,8,19000000,'2018-11-21'),(6,4,3,10,76000000,'2018-11-
21'),(7,21,5,6,125000000,'2018-11-21'),(8,6,10,3,83000000,'2018-11-
21'),(9,42,2,5,23000000,NULL);
/*!40000 ALTER TABLE `Transfer` ENABLE KEYS */;
UNLOCK TABLES;
```