

## **PROJECT – 1(PHASE-2)**

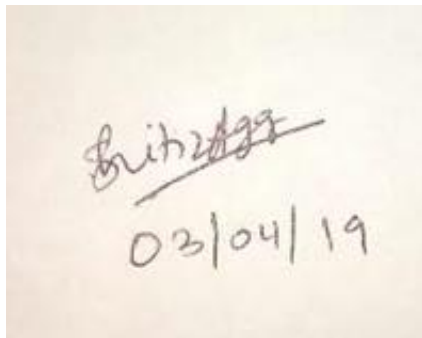
### **SOCCER WORLD CUP**

#### **HONOR CODE**

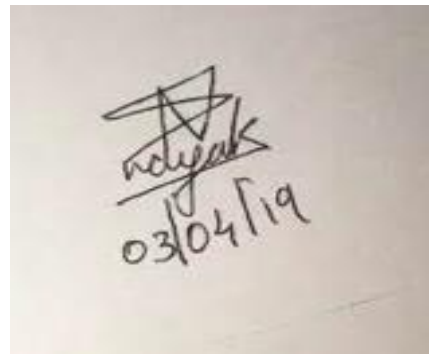
I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.

I promise that I will submit only work that I personally create or that I contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

BY:

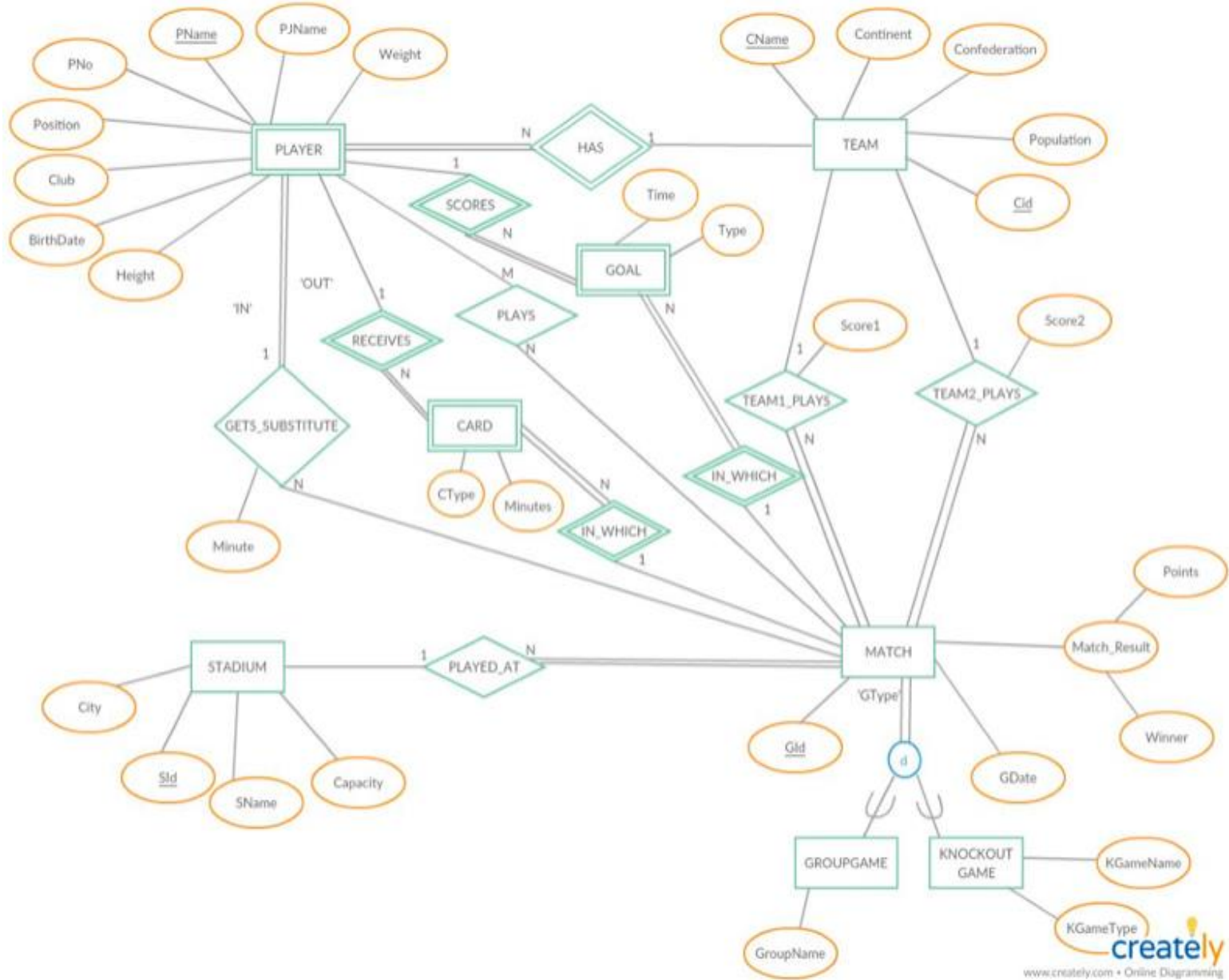
A photograph of a handwritten signature, "Shitiz Kumar Aggarwal", written in dark ink on a light-colored surface. Below the signature, the date "03/04/19" is written in the same ink.

SHITIZ KUMAR AGGARWAL  
(1001669578)

A photograph of a handwritten signature, "Nameet Nayak", written in dark ink on a light-colored surface. Below the signature, the date "03/04/19" is written in the same ink.

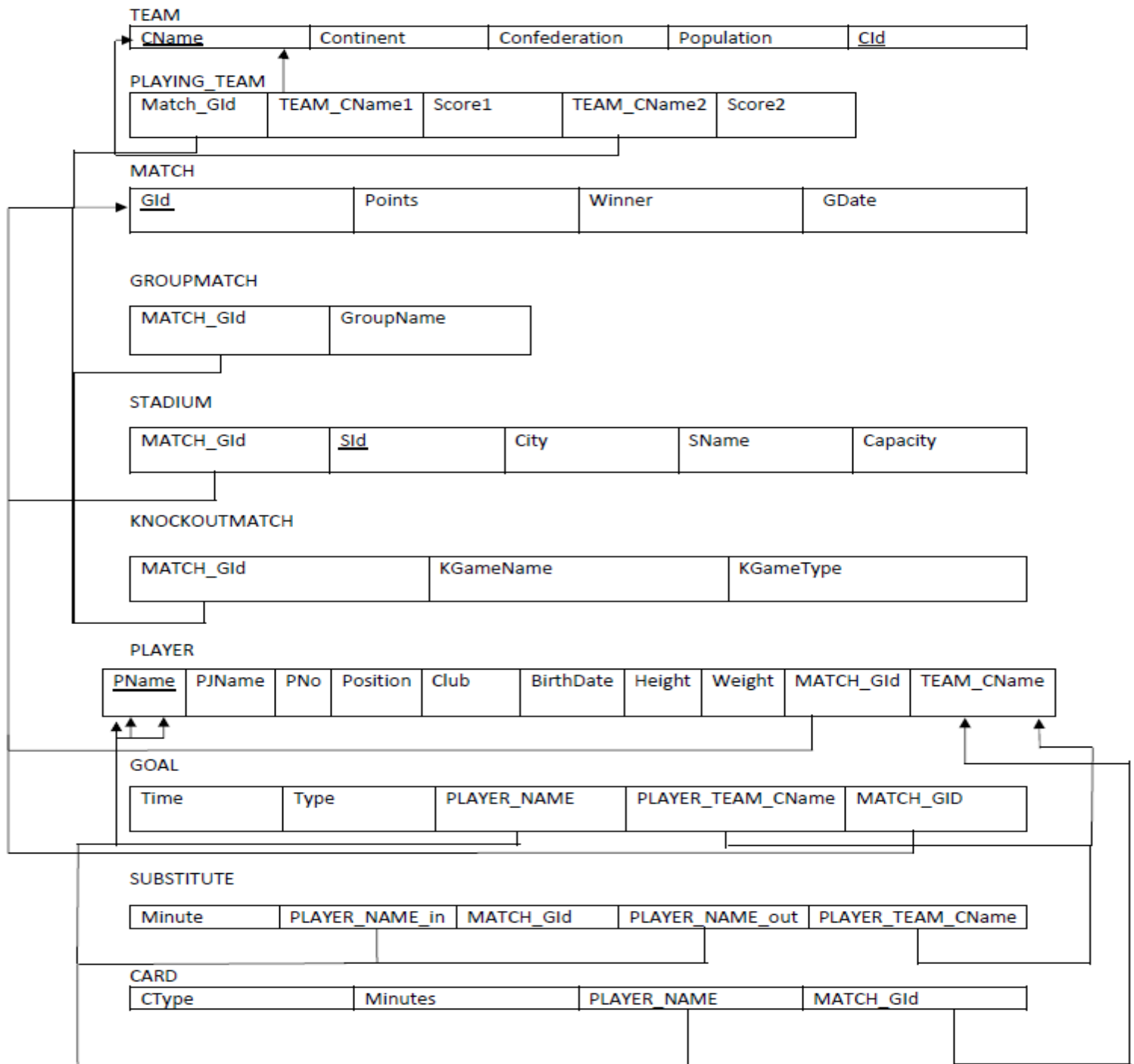
NAMEET NAYAK  
(1001308637)

- **ER Diagram for the Soccer World Cup is as follow:**

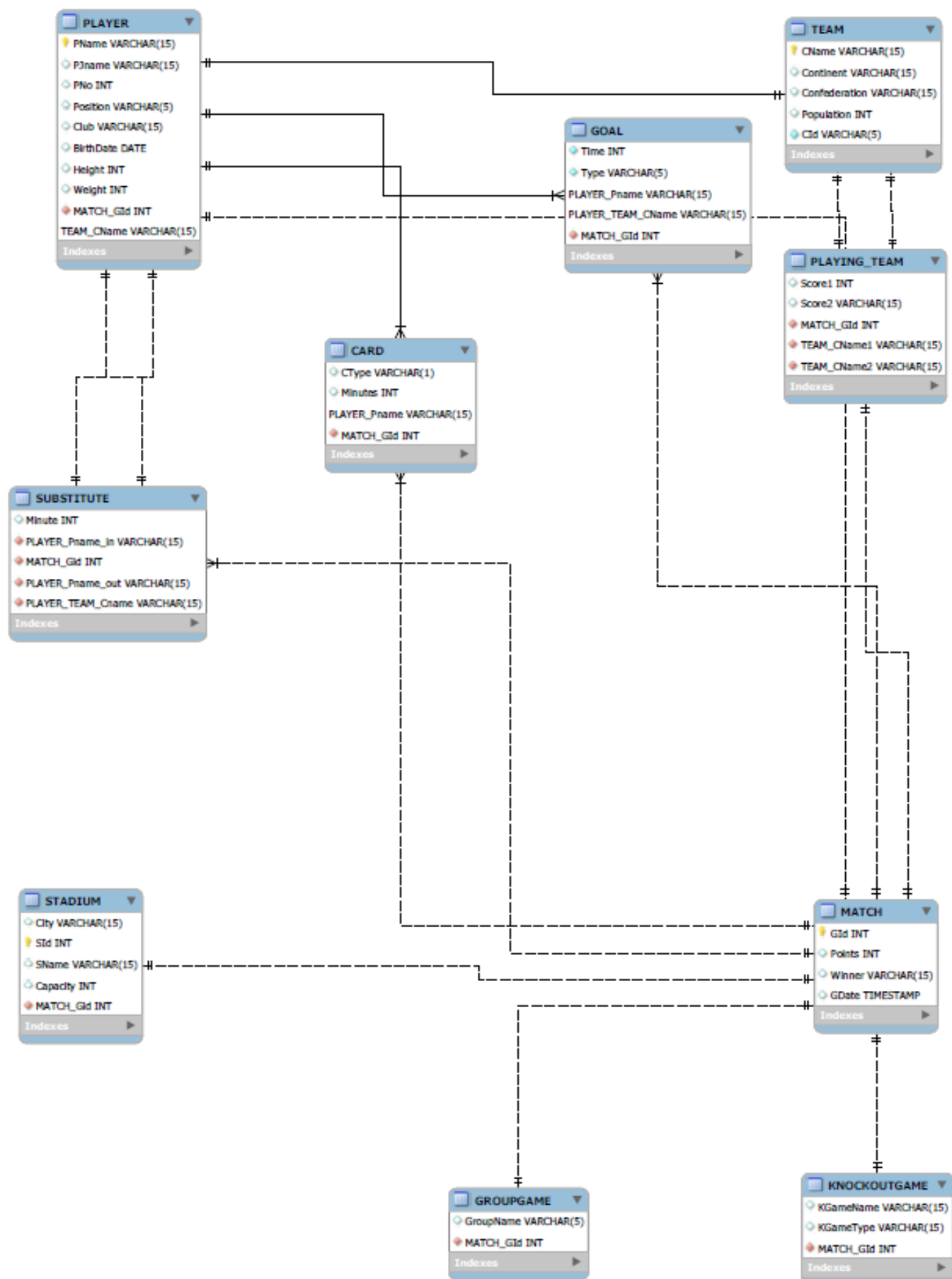


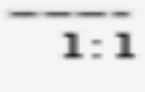
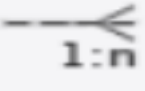
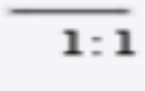
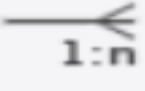


- Following are the entities used in the ER Diagram of the project:
  1. TEAM
  2. PLAYER
  3. MATCH
  4. STADIUM
  5. CARD
  6. GOAL
  7. GROUPGAME
  8. KNOCKOUTGAME
  
- Attributes used for Entities are:
  1. **TEAM:** CName (a primary key to store country's name), Continent, Confederation, Population, Cid(a unique attribute which denotes Country ID in group fixtures). TEAM is in relationship with MATCH as both the teams play in the game. TEAM1\_PLAYS and TEAM2\_PLAYS will store the information for both the teams score in the game.
  2. **PLAYER:** PName (the primary key as it will store player name), PJName(denotes player's jersey name), PNo(Number on player jersey from 1 to 23), Position (position at which player plays for his team), Club(to store the club name player plays for), BirthDate, Weight, Height. PLAYER is a weak entity and in a weak relationship with TEAM because a player cannot exist without a Team. PLAYER is also in relationship with MATCH also SCORES and RECEIVES are weak relationship with weak entities GOAL and CARD because there can be a match without goals and a match can exist for player without getting booked. A player can GETS\_SUBSTITUTE in a match and GETS\_SUBSTITUTE holds the substitution information and the minute of the substitution.
  3. **MATCH:** Gid(a unique attribute which holds the game id), GDate(to store the game date), Match\_Result is a composite attribute which stores the Points and Winner of the match information. MATCH is specialised into GROUPGAME and KNOCKOUTGAME BY predicate defined attribute.
  4. **GROUPGAME:** GroupName(to store the group name information). This entity will inherit all the properties of MATCH.
  5. **KNOCKOUTGAME:** KGameName(will store knockout game name such as X, Q, S, L, T) and KGameType(subtypes of Knockout Game as Regular, Extra Time or Penalties).This entity will inherit all the properties of MATCH.
  6. **STADIUM:** City(at which the stadium is located), Sid(a unique attribute which holds the stadium id), SName(holds stadium name), Capacity. STADIUM is in relationship with MATCH, as a match will be PLAYED\_AT stadium.
  7. **CARD:** CARD is a weak entity and will store CType(type of card yellow or red) and Minutes(time at which the card is issued to a player) as attributes.
  8. **GOAL:** GOAL is a weak entity and will store Time(at which the goal is scored) and Type(the type of goal such as Regular Goal, Penalty or own goal) as attribute.

- **Relational Schema with Identifying Constraints is as follow:**







|   |                                    |
|---|------------------------------------|
|  | Non identifying relationship (1:1) |
|  | Non identifying relationship (1:n) |
|  | Identifying relationship (1:1)     |
|  | Non identifying relationship (1:n) |
|  | Non identifying relationship (n:m) |
|  | Null                               |

 Primary Key

 Attribute

 Attribute

 Foreign Key

| <b>PRIMARY KEY (Table Name)</b> | <b>REFRENTIAL INTEGRITY<br/>CONSTRAINT (Entity Type)</b>                                |
|---------------------------------|---|
| GId (MATCH)                     | PLAYING_TEAM, CARD,<br>SUBSTITUTE, STADIUM,<br>GROUPGAME, KNOCKOUTGAME,<br>GOAL, PLAYER |
| CName (TEAM)                    | PLAYING_TEAM, PLAYER  |
| PName (PLAYER)                  | CARD, GOAL, SUBSTITUTE  |
| SId (STADIUM)                   | -   |



## • SQL STATEMENTS WITH CREATE TABLE PROOFS:

-- MySQL Workbench Forward Engineering

```
SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0;
SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS,
FOREIGN_KEY_CHECKS=0;
SET @OLD_SQL_MODE=@@SQL_MODE,
SQL_MODE='TRADITIONAL,ALLOW_INVALID_DATES';
```

-----  
-- Schema mydb  
-----

-----  
-- Schema soccer\_worldcup  
-----

DROP SCHEMA IF EXISTS `soccer\_worldcup` ;

-----  
-- Schema soccer\_worldcup  
-----

CREATE SCHEMA IF NOT EXISTS `soccer\_worldcup` ;  
USE `soccer\_worldcup` ;

The screenshot displays the MySQL Workbench interface. The central query editor contains the following SQL statements:

```
1 SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0;
2 SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0;
3 SET @OLD_SQL_MODE=@@SQL_MODE, SQL_MODE='TRADITIONAL,ALLOW_INVALID_DATES';
4 DROP SCHEMA IF EXISTS `soccer_worldcup` ;
5 CREATE SCHEMA IF NOT EXISTS `soccer_worldcup` ;
6 USE `soccer_worldcup` ;
7
```

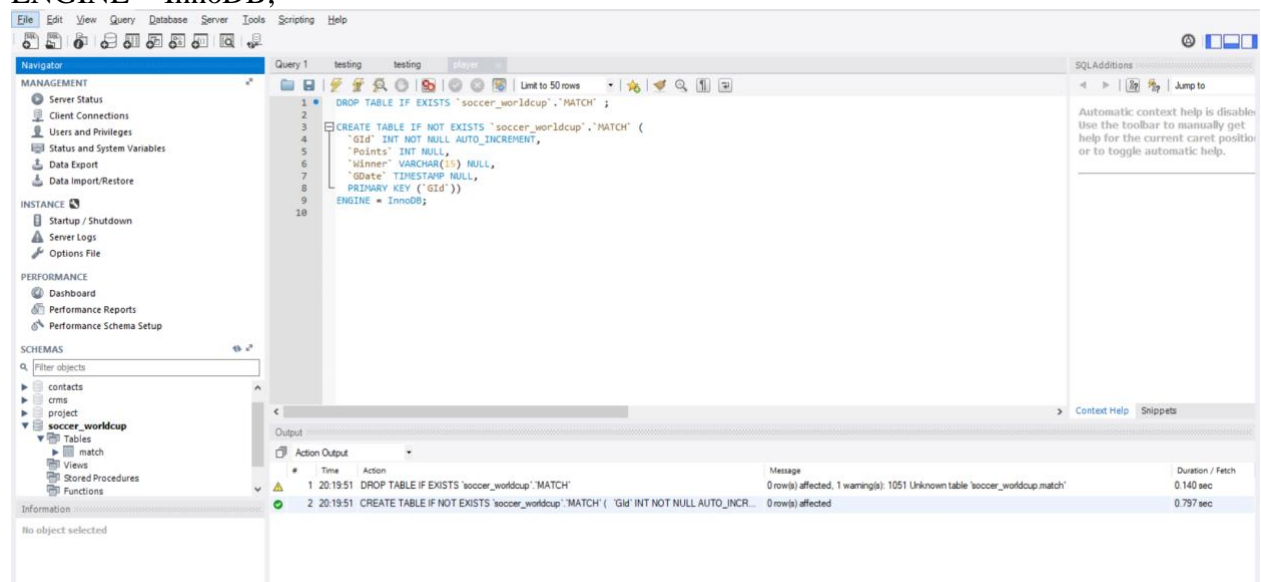
The left sidebar shows the 'SCHEMAS' section with a search filter and a list of databases: contact, contacts, cms, project, **soccer\_worldcup**, and sys. The 'Output' pane at the bottom shows the execution results of the queries:

| # | Time     | Action   | Message            | Duration / Fetch    |
|---|----------|--|--------------------|---------------------|
| 2 | 20:04:25 | SELECT * FROM soccer_worldcup.player LIMIT 0, 50                       | 0 row(s) returned  | 0.015 sec / 0.000 s |
| 3 | 20:17:25 | SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0                | 0 row(s) affected  | 0.000 sec           |
| 4 | 20:17:25 | SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0 | 0 row(s) affected  | 0.000 sec           |
| 5 | 20:17:25 | SET @OLD_SQL_MODE=@@SQL_MODE, SQL_MODE=TRADITIONAL,ALLOW_INVALID_DATES | 0 row(s) affected  | 0.000 sec           |
| 6 | 20:17:25 | DROP SCHEMA IF EXISTS `soccer_worldcup`                                | 10 row(s) affected | 5.860 sec           |
| 7 | 20:17:30 | CREATE SCHEMA IF NOT EXISTS `soccer_worldcup`                          | 1 row(s) affected  | 0.734 sec           |
| 8 | 20:17:31 | USE `soccer_worldcup`  | 0 row(s) affected  | 0.000 sec           |

-----  
**-- Table `soccer\_worldcup`.`MATCH`**  
-----

DROP TABLE IF EXISTS `soccer\_worldcup`.`MATCH` ;

```
CREATE TABLE IF NOT EXISTS `soccer_worldcup`.`MATCH` (  
  `Gid` INT NOT NULL AUTO_INCREMENT,  
  `Points` INT NULL,  
  `Winner` VARCHAR(15) NULL,  
  `GDate` TIMESTAMP NULL,  
  PRIMARY KEY (`Gid`))  
ENGINE = InnoDB;
```

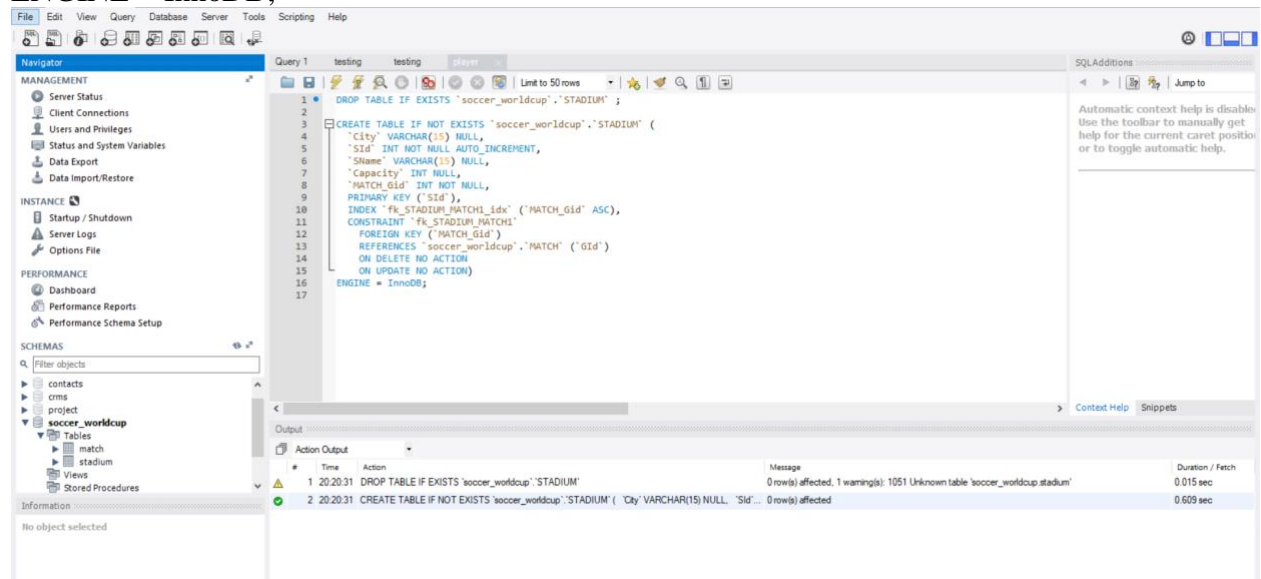


-----  
**-- Table `soccer\_worldcup`.`STADIUM`**  
-----

DROP TABLE IF EXISTS `soccer\_worldcup`.`STADIUM` ;

```
CREATE TABLE IF NOT EXISTS `soccer_worldcup`.`STADIUM` (  
  `City` VARCHAR(15) NULL,  
  `Sid` INT NOT NULL AUTO_INCREMENT,  
  `SName` VARCHAR(15) NULL,  
  `Capacity` INT NULL,  
  `MATCH_Gid` INT NOT NULL,  
  PRIMARY KEY (`Sid`),  
  INDEX `fk_STADIUM_MATCH1_idx` (`MATCH_Gid` ASC),  
  CONSTRAINT `fk_STADIUM_MATCH1`  
    FOREIGN KEY (`MATCH_Gid`)  
    REFERENCES `soccer_worldcup`.`MATCH` (`Gid`)
```

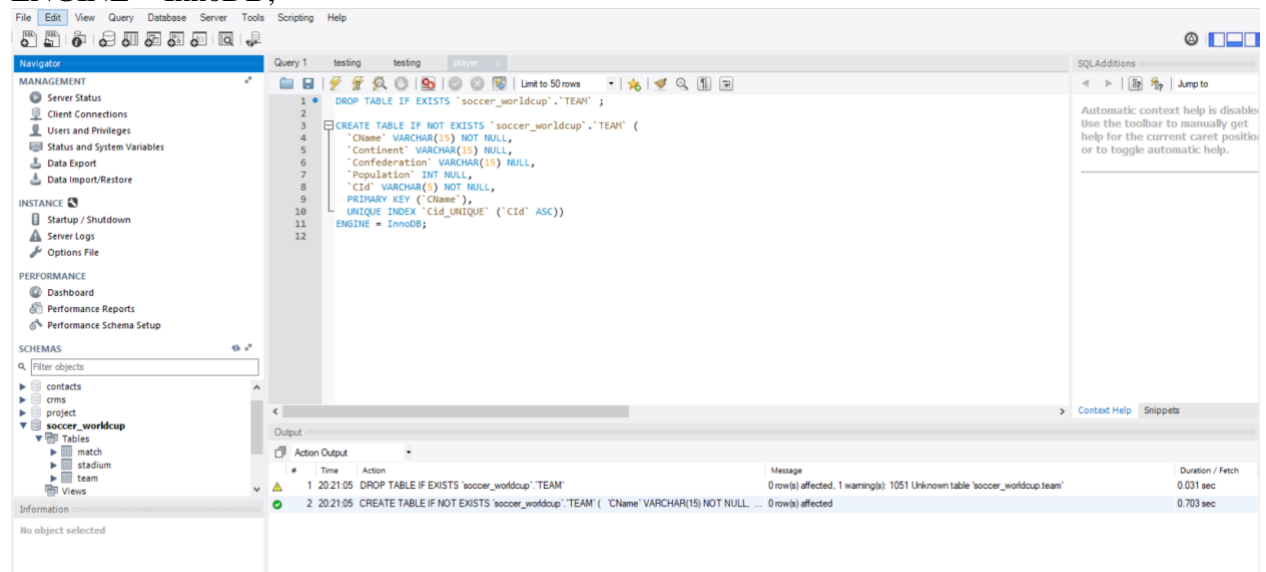
ON DELETE NO ACTION  
ON UPDATE NO ACTION)  
ENGINE = InnoDB;



-- Table `soccer\_worldcup`.`TEAM`

DROP TABLE IF EXISTS `soccer\_worldcup`.`TEAM` ;

CREATE TABLE IF NOT EXISTS `soccer\_worldcup`.`TEAM` (  
`CName` VARCHAR(15) NOT NULL,  
`Continent` VARCHAR(15) NULL,  
`Confederation` VARCHAR(15) NULL,  
`Population` INT NULL,  
`Cid` VARCHAR(5) NOT NULL,  
PRIMARY KEY (`CName`),  
UNIQUE INDEX `Cid\_UNIQUE` (`Cid` ASC))  
ENGINE = InnoDB;

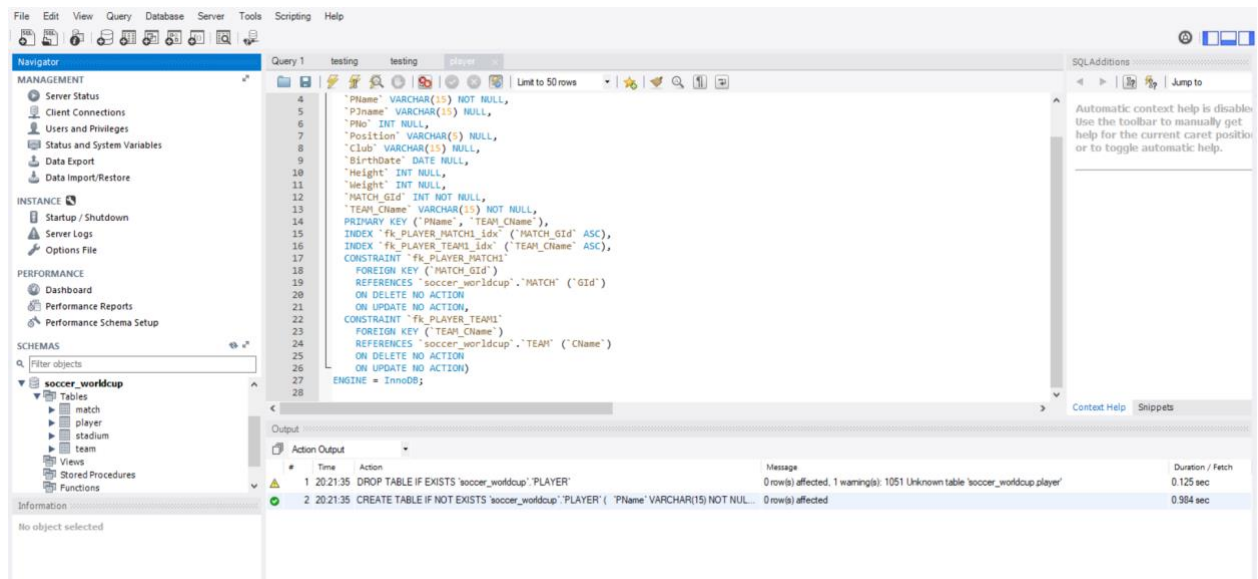


```

-----
-- Table `soccer_worldcup`.`PLAYER`
-----
DROP TABLE IF EXISTS `soccer_worldcup`.`PLAYER` ;

CREATE TABLE IF NOT EXISTS `soccer_worldcup`.`PLAYER` (
  `PName` VARCHAR(15) NOT NULL,
  `PJname` VARCHAR(15) NULL,
  `PNo` INT NULL,
  `Position` VARCHAR(5) NULL,
  `Club` VARCHAR(15) NULL,
  `BirthDate` DATE NULL,
  `Height` INT NULL,
  `Weight` INT NULL,
  `MATCH_GId` INT NOT NULL,
  `TEAM_CName` VARCHAR(15) NOT NULL,
  PRIMARY KEY (`PName`, `TEAM_CName`),
  INDEX `fk_PLAYER_MATCH1_idx` (`MATCH_GId` ASC),
  INDEX `fk_PLAYER_TEAM1_idx` (`TEAM_CName` ASC),
  CONSTRAINT `fk_PLAYER_MATCH1`
    FOREIGN KEY (`MATCH_GId`)
      REFERENCES `soccer_worldcup`.`MATCH` (`GId`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION,
  CONSTRAINT `fk_PLAYER_TEAM1`
    FOREIGN KEY (`TEAM_CName`)
      REFERENCES `soccer_worldcup`.`TEAM` (`CName`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION)
ENGINE = InnoDB;

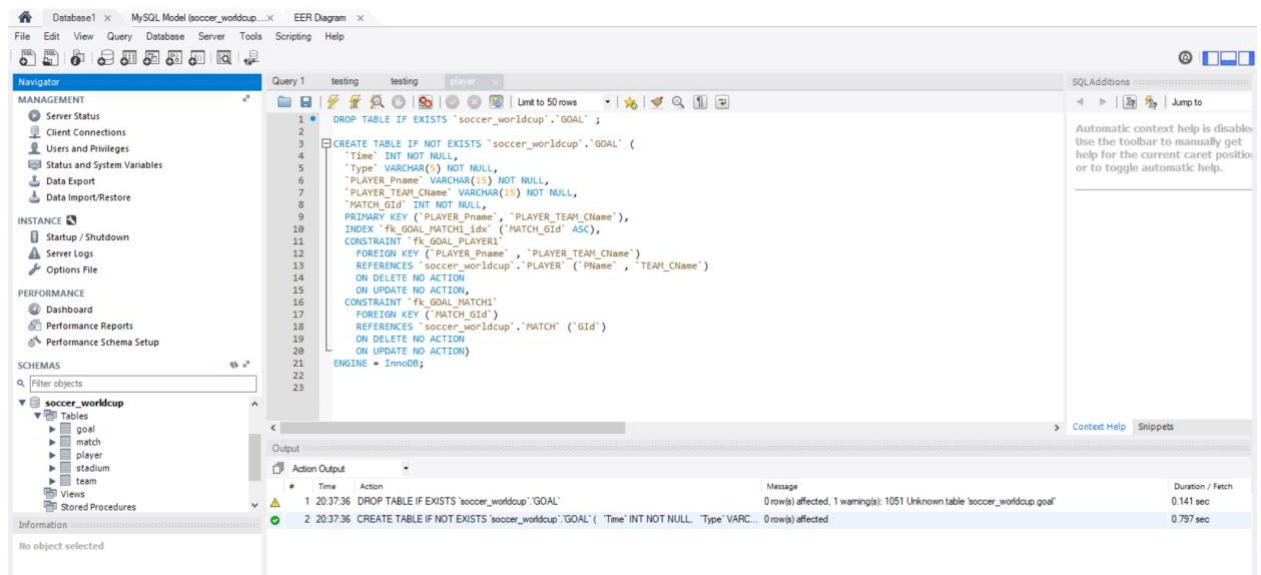
```



## -- Table `soccer\_worldcup`.`GOAL`

DROP TABLE IF EXISTS `soccer\_worldcup`.`GOAL` ;

```
CREATE TABLE IF NOT EXISTS `soccer_worldcup`.`GOAL` (
  `Time` INT NOT NULL,
  `Type` VARCHAR(5) NOT NULL,
  `PLAYER_Pname` VARCHAR(15) NOT NULL,
  `PLAYER_TEAM_CName` VARCHAR(15) NOT NULL,
  `MATCH_Gid` INT NOT NULL,
  PRIMARY KEY (`PLAYER_Pname`, `PLAYER_TEAM_CName`),
  INDEX `fk_GOAL_MATCH1_idx` (`MATCH_Gid` ASC),
  CONSTRAINT `fk_GOAL_PLAYER1`
    FOREIGN KEY (`PLAYER_Pname`, `PLAYER_TEAM_CName`)
    REFERENCES `soccer_worldcup`.`PLAYER` (`PName`, `TEAM_CName`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION,
  CONSTRAINT `fk_GOAL_MATCH1`
    FOREIGN KEY (`MATCH_Gid`)
    REFERENCES `soccer_worldcup`.`MATCH` (`Gid`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION)
ENGINE = InnoDB;
```



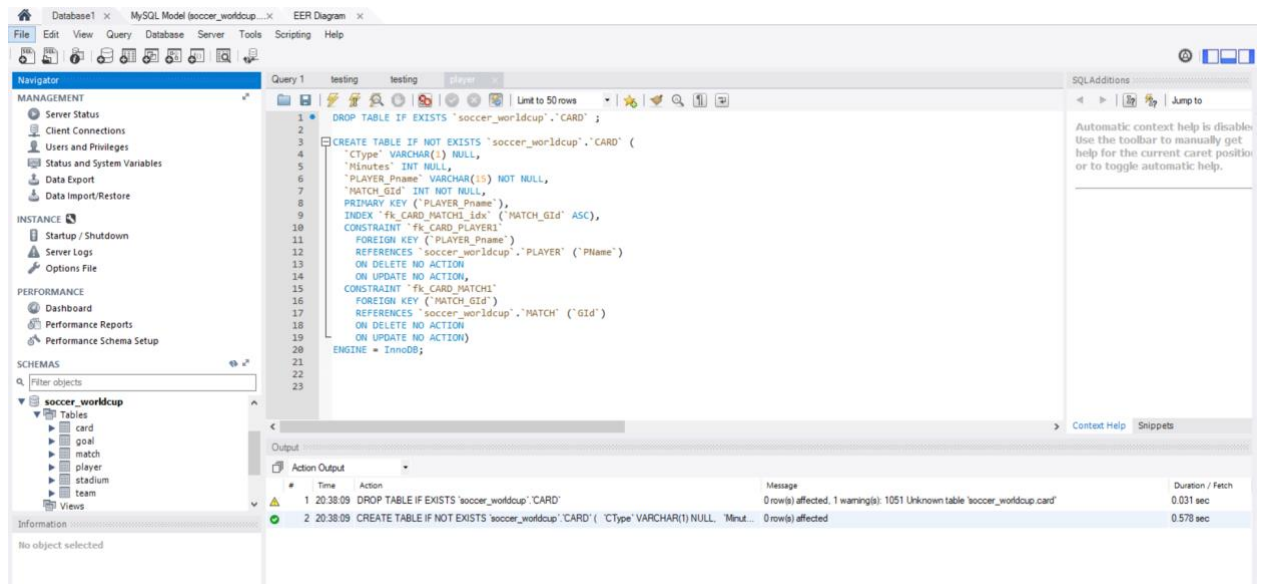
## -- Table `soccer\_worldcup`.`CARD`

DROP TABLE IF EXISTS `soccer\_worldcup`.`CARD` ;

```

CREATE TABLE IF NOT EXISTS `soccer_worldcup`.`CARD` (
  `CType` VARCHAR(1) NULL,
  `Minutes` INT NULL,
  `PLAYER_Pname` VARCHAR(15) NOT NULL,
  `MATCH_GId` INT NOT NULL,
  PRIMARY KEY (`PLAYER_Pname`),
  INDEX `fk_CARD_MATCH1_idx` (`MATCH_GId` ASC),
  CONSTRAINT `fk_CARD_PLAYER1`
    FOREIGN KEY (`PLAYER_Pname`)
    REFERENCES `soccer_worldcup`.`PLAYER` (`PName`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION,
  CONSTRAINT `fk_CARD_MATCH1`
    FOREIGN KEY (`MATCH_GId`)
    REFERENCES `soccer_worldcup`.`MATCH` (`GId`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION)
ENGINE = InnoDB;

```



## -- Table `soccer\_worldcup`.`SUBSTITUTE`

DROP TABLE IF EXISTS `soccer\_worldcup`.`SUBSTITUTE` ;

```

CREATE TABLE IF NOT EXISTS `soccer_worldcup`.`SUBSTITUTE` (
  `Minute` INT NULL,
  `PLAYER_Pname_in` VARCHAR(15) NOT NULL,
  `MATCH_Gid` INT NOT NULL,
  `PLAYER_Pname_out` VARCHAR(15) NOT NULL,
  `PLAYER_TEAM_Cname` VARCHAR(15) NOT NULL,
  INDEX `fk_SUBSTITUTE_PLAYER1_idx` (`PLAYER_Pname_in` ASC),
  INDEX `fk_SUBSTITUTE_MATCH1_idx` (`MATCH_Gid` ASC),
  INDEX `fk_SUBSTITUTE_PLAYER2_idx` (`PLAYER_Pname_out` ASC,
  `PLAYER_TEAM_Cname` ASC),
  CONSTRAINT `fk_SUBSTITUTE_PLAYER1`
    FOREIGN KEY (`PLAYER_Pname_in`)
      REFERENCES `soccer_worldcup`.`PLAYER` (`PName`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION,
  CONSTRAINT `fk_SUBSTITUTE_MATCH1`
    FOREIGN KEY (`MATCH_Gid`)

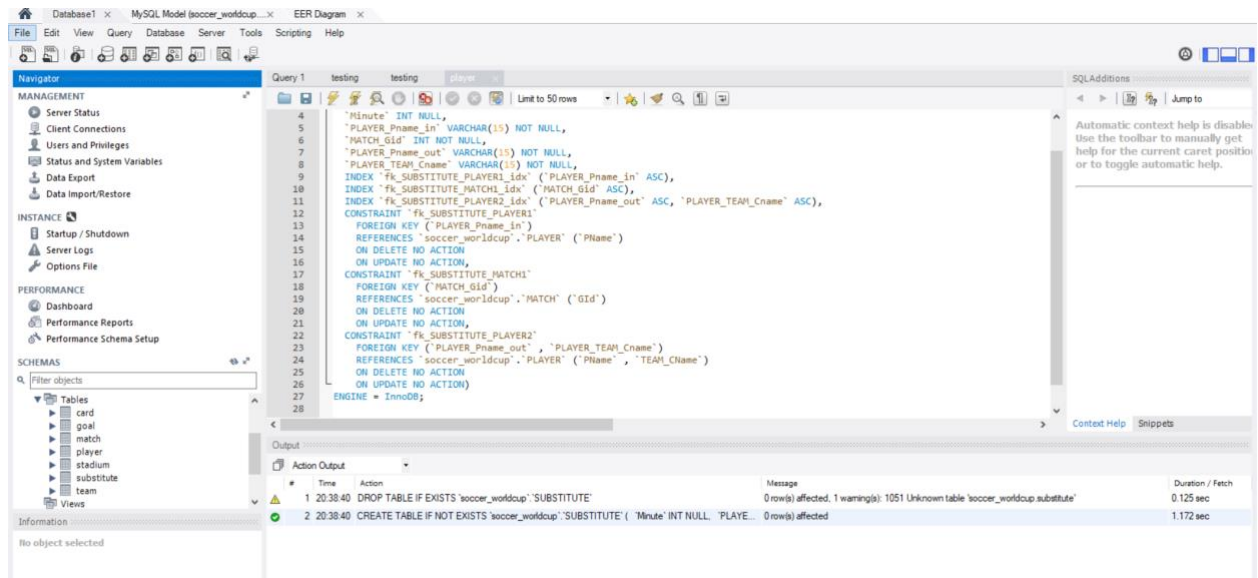
```



```

REFERENCES `soccer_worldcup`.`MATCH` (`GId`)
ON DELETE NO ACTION
ON UPDATE NO ACTION,
CONSTRAINT `fk_SUBSTITUTE_PLAYER2`
FOREIGN KEY (`PLAYER_Pname_out`, `PLAYER_TEAM_Cname`)
REFERENCES `soccer_worldcup`.`PLAYER` (`PName`, `TEAM_CName`)
ON DELETE NO ACTION
ON UPDATE NO ACTION)
ENGINE = InnoDB;

```



## -- Table `soccer\_worldcup`.`PLAYING\_TEAM`

```
DROP TABLE IF EXISTS `soccer_worldcup`.`PLAYING_TEAM` ;
```

```

CREATE TABLE IF NOT EXISTS `soccer_worldcup`.`PLAYING_TEAM` (
  `Score1` INT NULL,
  `Score2` VARCHAR(15) NULL,
  `MATCH_GId` INT NOT NULL,
  `TEAM_CName1` VARCHAR(15) NOT NULL,
  `TEAM_CName2` VARCHAR(15) NOT NULL,
  INDEX `fk_PLAYING_TEAM_MATCH1_idx` (`MATCH_GId` ASC),
  INDEX `fk_PLAYING_TEAM_TEAM1_idx` (`TEAM_CName1` ASC),
  INDEX `fk_PLAYING_TEAM_TEAM2_idx` (`TEAM_CName2` ASC),
  CONSTRAINT `fk_PLAYING_TEAM_MATCH1`
    FOREIGN KEY (`MATCH_GId`)
      REFERENCES `soccer_worldcup`.`MATCH` (`GId`)
      ON DELETE NO ACTION
      ON UPDATE NO ACTION,
  CONSTRAINT `fk_PLAYING_TEAM_TEAM1`

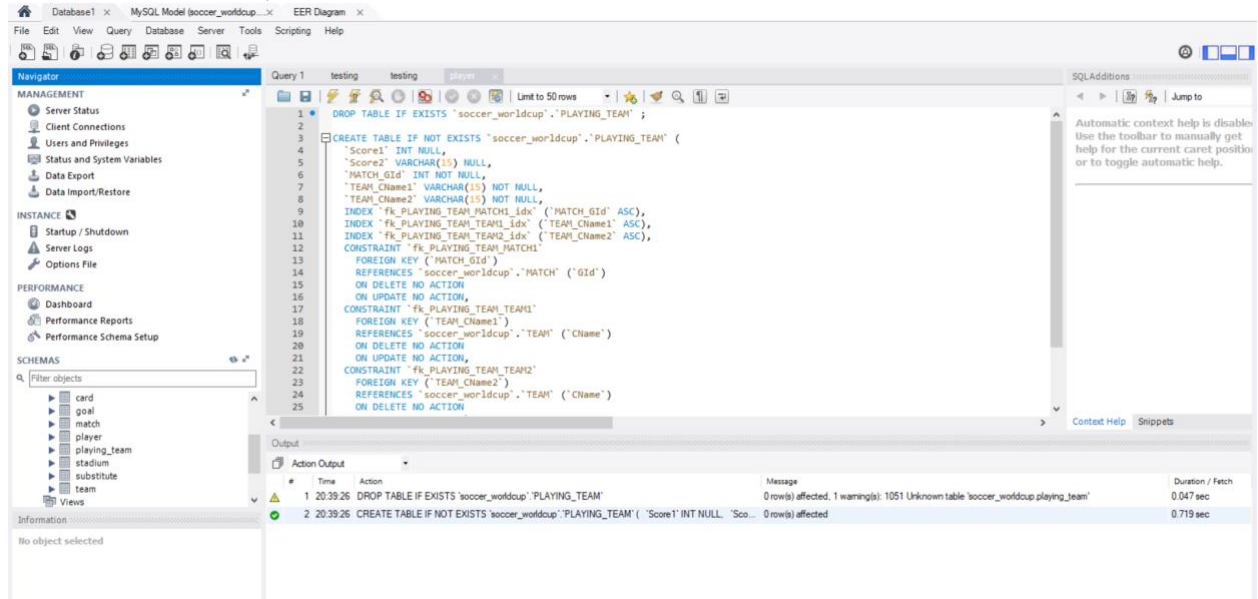
```



```

FOREIGN KEY (`TEAM_CName1`)
REFERENCES `soccer_worldcup`.`TEAM` (`CName`)
ON DELETE NO ACTION
ON UPDATE NO ACTION,
CONSTRAINT `fk_PLAYING_TEAM_TEAM2`
FOREIGN KEY (`TEAM_CName2`)
REFERENCES `soccer_worldcup`.`TEAM` (`CName`)
ON DELETE NO ACTION
ON UPDATE NO ACTION)
ENGINE = InnoDB;

```



```

-----
-- Table `soccer_worldcup`.`GROUPGAME`
-----

```

```

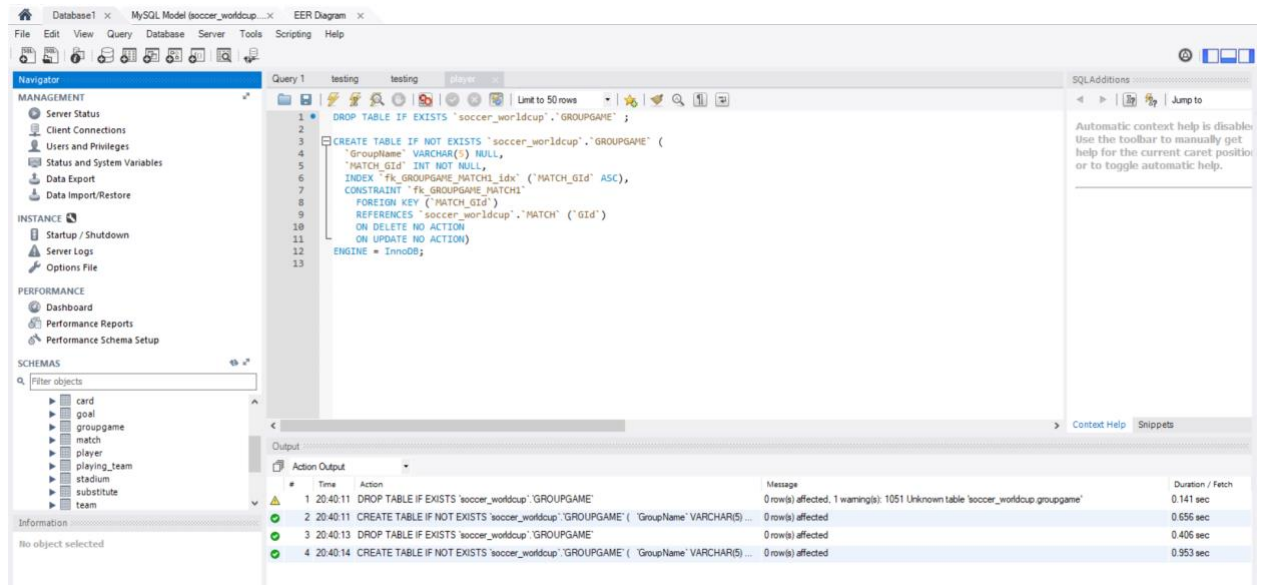
DROP TABLE IF EXISTS `soccer_worldcup`.`GROUPGAME` ;

```

```

CREATE TABLE IF NOT EXISTS `soccer_worldcup`.`GROUPGAME` (
  `GroupName` VARCHAR(5) NULL,
  `MATCH_Gid` INT NOT NULL,
  INDEX `fk_GROUPGAME_MATCH1_idx` (`MATCH_Gid` ASC),
  CONSTRAINT `fk_GROUPGAME_MATCH1`
    FOREIGN KEY (`MATCH_Gid`)
      REFERENCES `soccer_worldcup`.`MATCH` (`Gid`)
      ON DELETE NO ACTION
      ON UPDATE NO ACTION)
ENGINE = InnoDB;

```



-----  
**-- Table `soccer\_worldcup`.`KNOCKOUTGAME`**  
 -----

DROP TABLE IF EXISTS `soccer\_worldcup`.`KNOCKOUTGAME` ;

```
CREATE TABLE IF NOT EXISTS `soccer_worldcup`.`KNOCKOUTGAME` (
  `KGameName` VARCHAR(15) NULL,
  `KGameType` VARCHAR(15) NULL,
  `MATCH_Gid` INT NOT NULL,
  INDEX `fk_KNOCKOUTGAME_MATCH1_idx` (`MATCH_Gid` ASC),
  CONSTRAINT `fk_KNOCKOUTGAME_MATCH1`
    FOREIGN KEY (`MATCH_Gid`)
      REFERENCES `soccer_worldcup`.`MATCH` (`Gid`)
      ON DELETE NO ACTION
      ON UPDATE NO ACTION)
ENGINE = InnoDB;
```

```
SET SQL_MODE=@OLD_SQL_MODE;
SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS;
SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS;
```

Database1 x MySQL Model (soccer\_worldcup... x EER Diagram x

File Edit View Query Database Server Tools Scripting Help

Navigator

MANAGEMENT

- Server Status
- Client Connections
- Users and Privileges
- Status and System Variables
- Data Export
- Data Import/Restore

INSTANCE

- Startup / Shutdown
- Server Logs
- Options File

PERFORMANCE

- Dashboard
- Performance Reports
- Performance Schema Setup

SCHEMAS

Filter objects

- card
- goal
- groupgame
- knockoutgame
- match
- player
- playing\_team
- stadium
- substitute

Query 1 testing testing player Limit to 50 rows

```
1 DROP TABLE IF EXISTS `soccer_worldcup`.`KNOCKOUTGAME` ;
2
3 CREATE TABLE IF NOT EXISTS `soccer_worldcup`.`KNOCKOUTGAME` (
4   `KGameName` VARCHAR(15) NULL,
5   `KGameType` VARCHAR(15) NULL,
6   `MATCH_GID` INT NOT NULL,
7   INDEX `fk_KNOCKOUTGAME_MATCH1_idx` (`MATCH_GID` ASC),
8   CONSTRAINT `fk_KNOCKOUTGAME_MATCH1`
9     FOREIGN KEY (`MATCH_GID`)
10      REFERENCES `soccer_worldcup`.`MATCH` (`GID`)
11     ON DELETE NO ACTION
12     ON UPDATE NO ACTION)
13 ENGINE = InnoDB;
14
15
16 SET SQL_MODE=@OLD_SQL_MODE;
17 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS;
18 SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS;
```

SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

Context Help Snippets

Output

Action Output

| # | Time     | Action   | Message  | Duration / Fetch |
|---|----------|--|--|------------------|
| 1 | 20:40:49 | DROP TABLE IF EXISTS `soccer_worldcup`.`KNOCKOUTGAME`                                | 0 row(s) affected, 1 warning(s): 1051 Unknown table 'soccer_worldcup.knockoutgame'   | 0.125 sec        |
| 2 | 20:40:50 | CREATE TABLE IF NOT EXISTS `soccer_worldcup`.`KNOCKOUTGAME` ( `KGameName` VARCHAR... | 0 row(s) affected  | 0.594 sec        |
| 3 | 20:40:50 | SET SQL_MODE=@OLD_SQL_MODE   | 0 row(s) affected, 1 warning(s): 3135 NO_ZERO_DATE, NO_ZERO_IN_DATE and ERROR_FOR... | 0.000 sec        |
| 4 | 20:40:50 | SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS                                       | 0 row(s) affected  | 0.000 sec        |
| 5 | 20:40:50 | SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS   | 0 row(s) affected  | 0.000 sec        |

Information

No object selected