“ESPORTS LEAGUE MANAGEMENT DATABASE”

UTAH VALLEY UNIVERSITY

UVU

Team: Group3 (Ferguson, Jaykant, Tyson, Samuel)
Database Theory
CS3520 X02 | 2025 Spring
Final Project

Table of Contents

Executive Summary:

Esport league Organization the main motive of this company is managing online game Events. This organization brings together teams, players, sponsors, and leagues. Operates the Esports events smoothly and creates a new level of experience for all gamers.

Vision and Objective:

Our Vision is to bring Esport Community together by providing a centralized system that handles multiple operations on the Esport League Management.

The objective of the Esport League Management Database is to help organizations optimize operations, attract sponsorships, and grow their competitive presence. It reduces administrative workload to ensure smooth league management, improve decision-making, and promote fair play across all events.

Mission Statement

Service

1. Organizing Events like tournaments and leagues.
2. Provide the registration and administration.
3. Provide the real time Match scheduling
4. Track the player compliance and disciplinary actions.

Use Case

Use Case 1: Handle the Esport league and tournament

Use Case 2: Track the Team performance statistics.

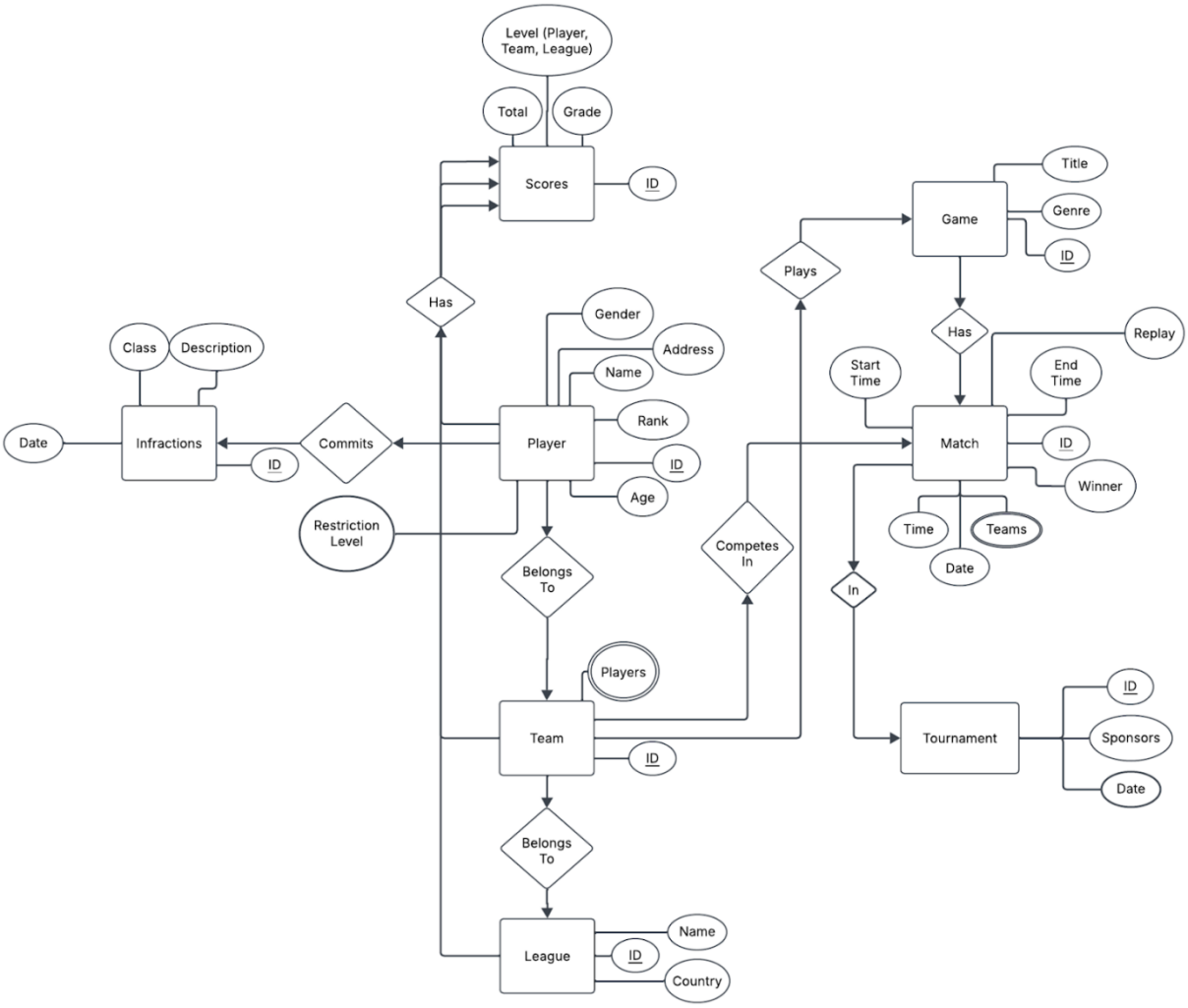
Use Case 3. Monitor infraction and game restrictions

Use Case 4. Opportunities for sponsors

Business requirement

1. Player management
    - The database can store information about players such as their name, rank, and age
    - In order to participate in events, players must belong to a team (even if that team is just a single player)
2. Event and player registration
    - Players need to be able to register their teams and pay fees through the online portal
    - Players must be able to register themselves through the online portal as well
3. Event record keeping
    - The database needs to be able to track information about matches, such as the teams that played in them, the results, and the games being played
    - Event sponsors should also be catalogued in case the billing department needs them in future
4. Organize league information
    - We should be able to track the state of the league and the placement of teams in the league
5. Issue Citations and Enforce Bans
    - Each player needs a record of infractions so that the organization can take appropriate actions when a player crosses predetermined league thresholds
    - The date of each infraction needs to be recorded
6. Present supported games
    - The organization will be putting together events for a number of different games, and being able to show them to potential players is vital for the health of the leagues
    - Players should be able to find the games by title, genre, or by games appearing in upcoming events
7. Match information and recordings
    - Match replay data should be stored in the database
    - Other match information such as start and end time, winner, and game statistics should be available for each match

Conceptual Model Diagram

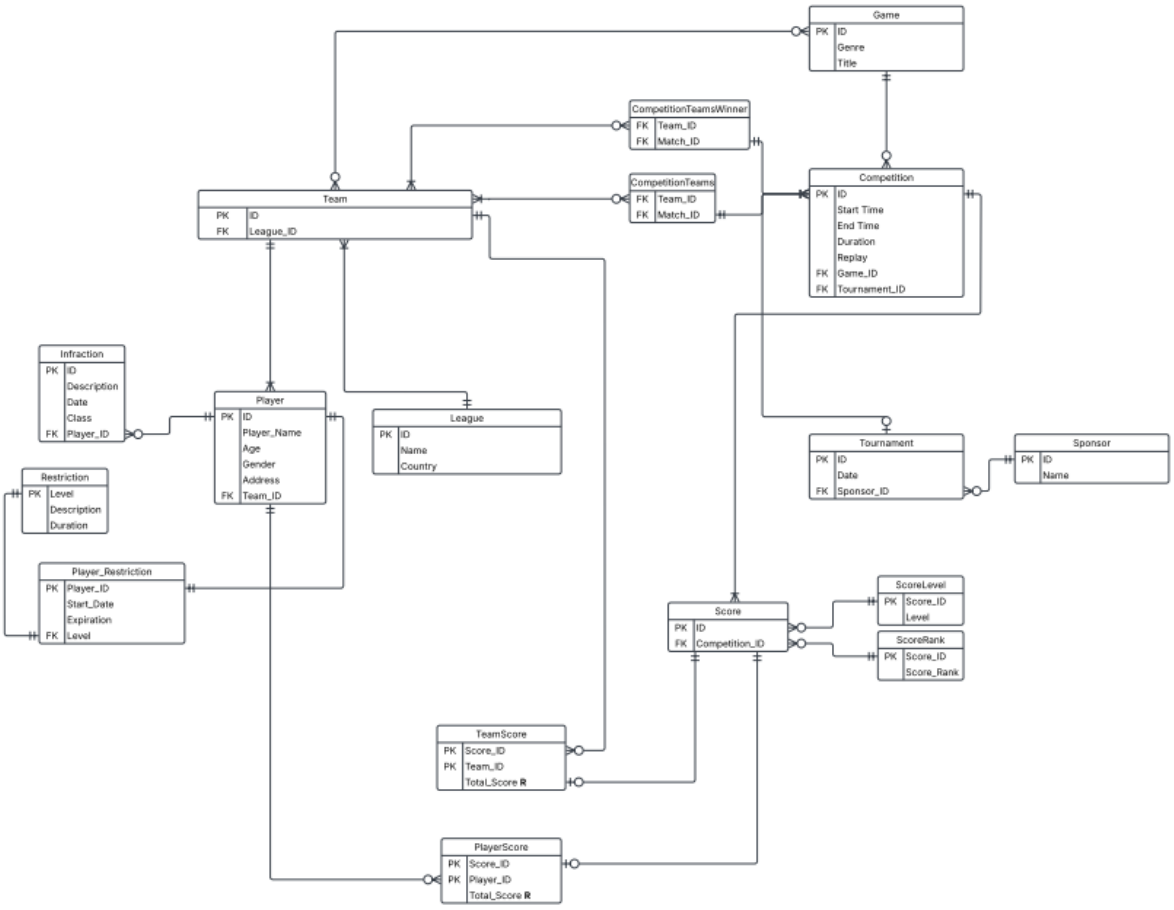


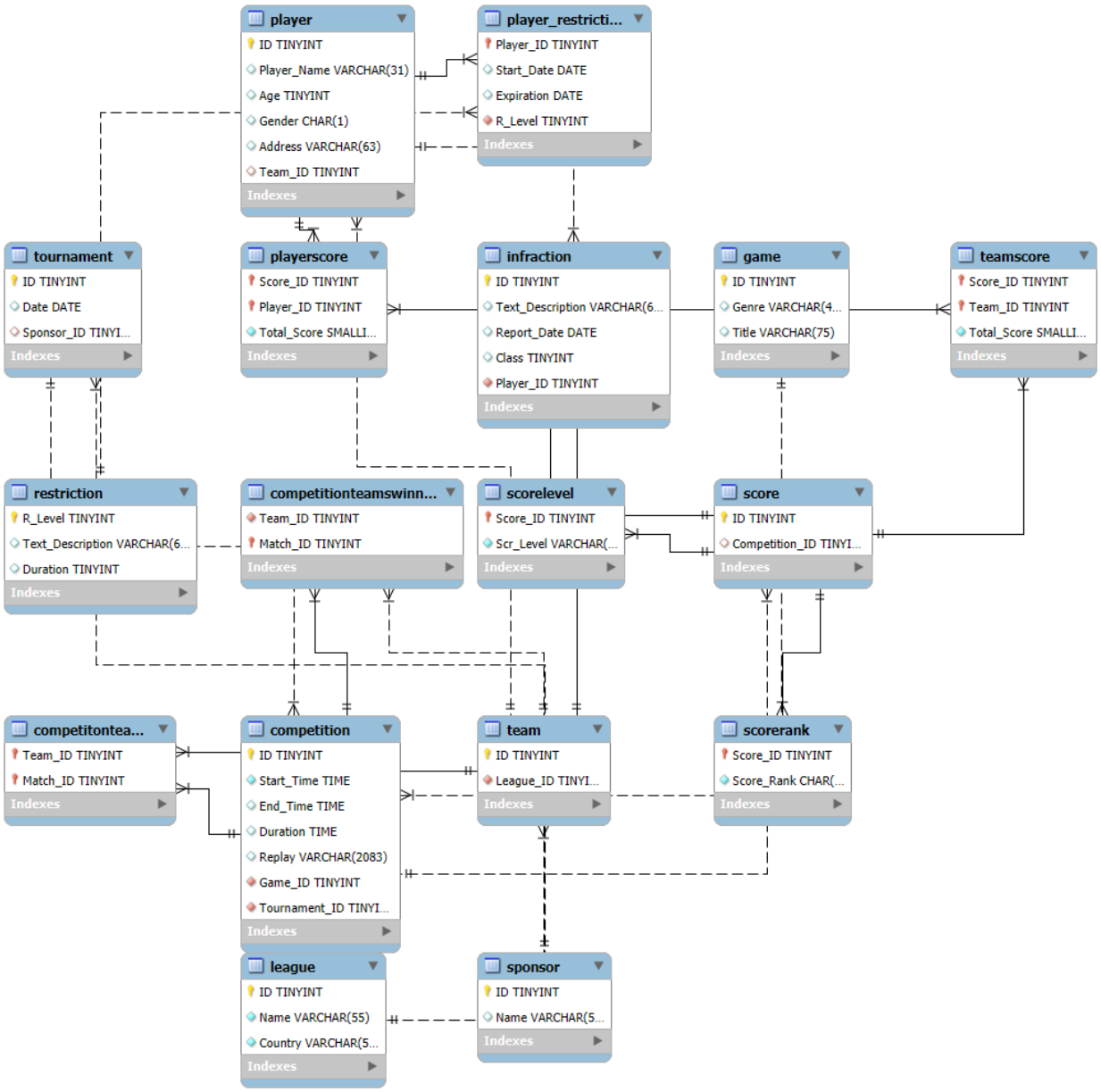
Conceptual Model Diagram

Diagram description:

The conceptual diagram contains 8 main entities: League, Team, Player, Score, Infraction, Game, Match, and Tournament. Teams are groups of associated players that play the same Game. Leagues are groups of Teams associated with the same organization. Matches are played in Tournaments, and each one is of a specific type of Game. Scores are recorded for Players and Teams for every Match. Any player Infractions are also recorded with associated restrictions

Entity-Relation Model Diagram





ER-Model Digram

Diagram description:

Strong Entities:

League, Team, player, infraction, Restriction, Game, Sponsor, Tournament, Competition, Score.

Weak Entities:

Player_Restriction, TeamScore, PlayerScore, CompetitionTeams, CompetitionTeamsWinner, ScoreLevel, and ScoreRank.

Strong Entities Tables:

- Team Table:
  - ID (tinyint unsigned, NOT NULL, AUTO_INCREMENT) - Unique identifier
  - League_ID(unsigned, NOT NULL) – References

  ▪ Store the information about team participants in the league.
  ▪ Team link to the Leagues (League_ID to League)

- League Table:
  - ID (tinyint unsigned, NOT NULL, AUTO_INCREMENT) - Unique identifier
  - Name (VARCHAR, 55, NOT NULL)
  - Country (VARCHR, 55, NOT NULL)

  ▪ Represent esport leagues having a multiple team

- Player Table:
  - ID (tinyint unsigned, NOT NULL, AUTO_INCREMENT) - Unique identifier
  - Player_Name (VARCHAR, 31)
  - Age (TINYINT)
  - Gender (CHAR, 1)
  - Adress (VRCHAR, 63)
  - Team_ID(tinyint, unsigned)

▪ Players belong to teams (Team_ID link to team)
▪Stored the personal and team-related information of each player.

- Infraction Table:
    - ID (tinyint unsigned, NOT NULL, AUTO_INCREMENT) - Unique identifier
    - Text_Description (VARCHAR, 63)
    - Report_Date (Date)
    - Class (TINYINT)
    - Player_ID - References

▪ Logs infraction or violations committed by players.

- Score Table:
    - ID (TINYINT, UNSIGNED, AUTO_INCREMENT)) - Unique identifier
    - Competition_ID (TINYINT, UNSIGNED) -References

▪ Store score information during the esport matches event associated with competions.

- Restriction Table:
    - R_Level (TINYINT, NOT NULL, AUTO_INCREMENT) -Restriction level identifier
    - Text_Description (VARCHAR, 63)
    - Duration (tinyint, unsigned)

▪ Level the various types of restriction for players.

- Game Table:
    - ID (tinyint, Unsigned, Not Null) – Unique identifier
    - Genre (Varchar, 45)
    - Title (Varchar, 75)

▪ Information used in the competition

- Sponsor Table:
    - ID (tinyint, Unsigned, Not Null) – Unique Identifier
    - Name (VarChar, 50)

▪ Sponsors involvement in tournaments.

- Tournaments Table:

- ID (tinyint, Unsigned, Not Null) – Unique Identifier
- Date (Date)
- Sponsor_ID (tinyint unsigned)

▪Links tournament to sponsors.

▪Recorded tournaments events and their sponsors.

- Competition Table:
  - ID (tinyint Unsigned, Not Null) – unique identifier
  - Start_Time (Time, Not Null)
  - End_Time (Time)
  - Duration (Time)
  - Replay (VarChar, 2083)
  - Game_ID (tinyint unsigned, not null) Game associated with the competition
  - Tournament_ID (tinyint unsigned, not null)

▪ Track the individual matches within the tournament

Weak Entities Tables:

Depending on the existence of Table having it owns primary key.

Player_Restriction: player (Player_ID) and restriction (R_Level)

▪Link the player with Various level of restriction types and durations

TeamScore: Score (Score_ID) and Player (Player_ID)

▪Record the team data got from the competition.

CompetitionTeams: Team (Team_ID) and Competition (Match_ID)

▪ Link the Team with the Matches

CompetitionTeamsWinner:Competiotion(Match) and references Team

▪ Track the Winning Team of each Competition,

ScoreLevel and ScoreRank: Score

▪Assign the level and the Rank (A, B, C, D…)

The approach used to develop your proposed solution

Team Contribution, planning and with strategies:

- Drafted the list of the projects and outlined the structure of the project.
- Selected the best project among them “Esport Database League”.
- Timeline frame of the project (Objectives, Task, and goals)
- Started with Conceptual and ER-Model Diagram using the tool Lucid Chart
- Build the Structure of the Tables as the project requirement with the help of Models diagram on My SQL.
- Implement the queries data and populate the tables.

Current releases

The current release is “ESports League Management v1.0”

Key Features:

- Track Multiple Leagues
- Track Player Infractions
- Keep Scores and Ranks for Players and Teams
- Competition History, including match ups and winners

ESports League Management v1.0 provides data tracking features for one or more leagues. Within each league, team records are created. Likewise, within each team player records are created.

As the league progresses, tournaments and competitions can be recorded. Records include the game played, teams involved, durations, and scores (individual and team). Additionally, violations may be tracked for players in the form of infractions and restrictions. Restrictions include age-based restrictions, temporary bans, and permanent bans.

Future releases

New Features

- Regional boundaries
    - Tracking team locations within Leagues to allow regional tournaments.
- Teams may participate in multiple Leagues
    - Functionality for Teams to participate in multiple Leagues allows for diverse aggregate Leagues.
- Inter-League tournaments
    - Inter-League tournaments introduce League Scores and competition tracking between Leagues.

Improvements

- User-friendly application interface
    - A user-friendly GUI makes the management software more accessible to ESports managers.

Releases

- New Features will be released as updates to version 1.0 in the form of version 1.x
- Major Improvements will be released as fully updated new versions x.0
    - Ex. GUI Release = “ESports League Management v2.0”

Conclusion:

In conclusion, our Project “Esports League Management Database” successfully built and implemented to manage leagues, teams, players, games, tournaments and scores. We started this project with Track every table Strong Entities and Weak Entities maintain relationships between them, ensuring data consistency, integrity, and efficient monitoring of esport activities. This project provides the strong foundation for managing competitions, recording the player performance, tracking the infraction, and create the opportunity for organizations, players, and sponsors involvement, To make the Valuable tool for the future growth of esports management.

Appendix

- Populated tables:

```
CREATE TABLE League(
    ID tinyint unsigned NOT NULL AUTO_INCREMENT,
   Name VARCHAR(55) NOT NULL,
   Country VARCHAR(55) NOT NULL,
    PRIMARY KEY (ID)
);

CREATE TABLE Team(
    ID tinyint UNSIGNED NOT NULL AUTO_INCREMENT,
  League_ID tinyint UNSIGNED NOT NULL,
    PRIMARY KEY (ID),
    FOREIGN KEY (League_ID)
    REFERENCES League(ID)
    ON UPDATE CASCADE
    ON DELETE CASCADE
);

CREATE TABLE Player(
    ID tinyint unsigned NOT NULL AUTO_INCREMENT,
    Player_Name VARCHAR(31),
    Age TINYINT,
    Gender CHAR(1),
    Address VARCHAR(63),
    Team_ID tinyint unsigned,
    PRIMARY KEY(ID),
```

```
    FOREIGN KEY(Team_ID) REFERENCES Team(ID)
            ON UPDATE CASCADE
            ON DELETE SET NULL,
    CHECK (Gender IN ('M', 'F', 'N'))
);

CREATE TABLE Infraction(
    ID tinyint unsigned NOT NULL AUTO_INCREMENT,
    Text_Description VARCHAR(63),
    Report_Date DATE,
    Class TINYINT,
    Player_ID tinyint unsigned NOT NULL,
    PRIMARY KEY (ID),
    FOREIGN KEY (Player_ID) REFERENCES Player(ID)
            ON UPDATE CASCADE
            ON DELETE CASCADE
);

CREATE TABLE Restriction(
    R_Level TINYINT NOT NULL AUTO_INCREMENT,
    Text_Description VARCHAR(63),
    Duration tinyint unsigned,
    PRIMARY KEY (R_Level)
);


CREATE TABLE Player_Restriction(
```

```
    Player_ID tinyint unsigned NOT NULL,
    Start_Date DATE,
    Expiration DATE,
    R_Level TINYINT NOT NULL,
    PRIMARY KEY(Player_ID),
    FOREIGN KEY(Player_ID) REFERENCES Player(ID)
            ON UPDATE CASCADE
            ON DELETE CASCADE,
    FOREIGN KEY(R_Level) REFERENCES Restriction(R_Level)
            ON UPDATE CASCADE
            ON DELETE CASCADE
);

CREATE TABLE Game(
    ID tinyint Unsigned Not Null,
   Genre Varchar(45),
   Title Varchar(75),
   Primary Key(ID)
);

CREATE TABLE Sponsor(
    ID tinyint Unsigned Not Null,
   Name VarChar(50),
   Primary Key(ID)
);

CREATE TABLE Tournament(
```

```
    ID tinyint Unsigned Not Null,
   Date Date,
   Sponsor_ID tinyint unsigned,
   Primary Key(ID),
   Foreign Key(Sponsor_ID)
            References Sponsor(ID)
      On Update cascade
);

CREATE TABLE Competition(
    ID tinyint Unsigned Not Null,
   Start_Time Time Not Null,
   End_Time Time,
   Duration Time,
   Replay VarChar(2083),
   Game_ID tinyint unsigned not null,
   Tournament_ID tinyint unsigned not null,
   Primary Key(ID),
   foreign key(Game_ID)
            References Game(ID)
      On Update Cascade,
    foreign Key(Tournament_ID)
            References Tournament(ID)
      On Update Cascade
);
```

```
-- Set names to be the same as "Competition" - Update if we change "Competition" to another name
CREATE TABLE Score (
    ID TINYINT UNSIGNED AUTO_INCREMENT PRIMARY KEY,
   Competition_ID TINYINT UNSIGNED,
   FOREIGN KEY (Competition_ID) REFERENCES Competition (ID)
            ON UPDATE CASCADE
     ON DELETE CASCADE
);

CREATE TABLE ScoreLevel (
    Score_ID TINYINT UNSIGNED,
    FOREIGN KEY (Score_ID) REFERENCES Score (ID)
            ON UPDATE CASCADE
     ON DELETE CASCADE,
    Scr_Level VARCHAR(8) NOT NULL,
   PRIMARY KEY (Score_ID)
);

CREATE TABLE ScoreRank (
    Score_ID TINYINT UNSIGNED,
    FOREIGN KEY (Score_ID) REFERENCES Score (ID)
            ON UPDATE CASCADE
     ON DELETE CASCADE,
    Score_Rank CHAR(1) NOT NULL,
   PRIMARY KEY (Score_ID)
);
```

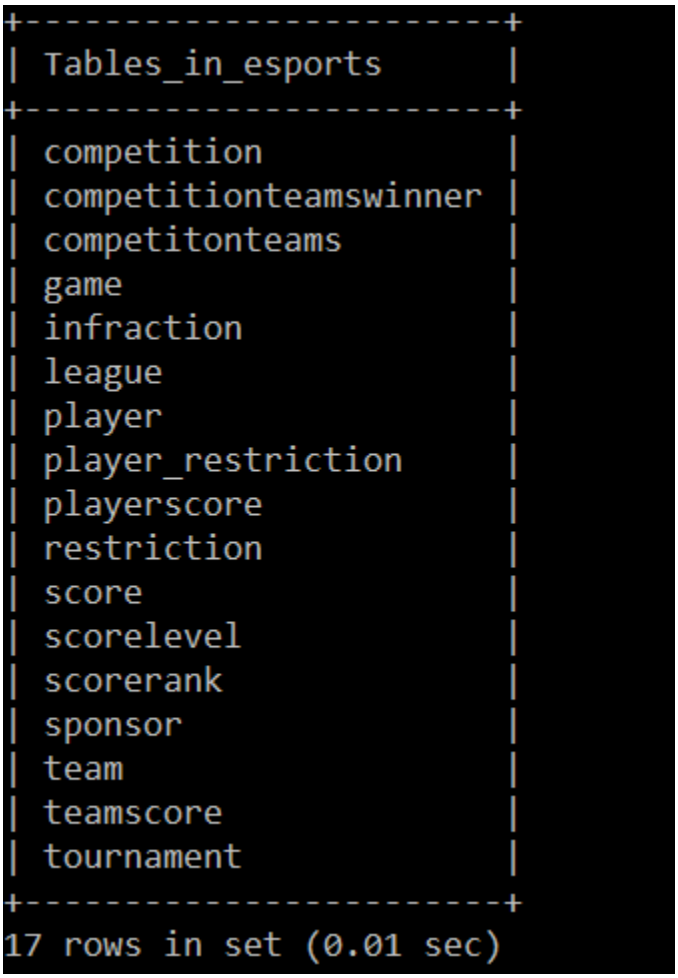
```
CREATE TABLE TeamScore (
    Score_ID TINYINT UNSIGNED,
   Team_ID TINYINT UNSIGNED,
    FOREIGN KEY (Score_ID) REFERENCES Score (ID)
            ON UPDATE CASCADE
     ON DELETE CASCADE,
    FOREIGN KEY (Team_ID) REFERENCES Team (ID)
            ON UPDATE CASCADE
     ON DELETE CASCADE,
    Total_Score smallint UNSIGNED NOT NULL,
   PRIMARY KEY (Score_ID, Team_ID)
);

CREATE TABLE PlayerScore (
    Score_ID TINYINT UNSIGNED,
   Player_ID TINYINT UNSIGNED,
    FOREIGN KEY (Score_ID) REFERENCES Score (ID)
            ON UPDATE CASCADE
     ON DELETE CASCADE,
    FOREIGN KEY (Player_ID) REFERENCES Player (ID)
            ON UPDATE CASCADE
     ON DELETE CASCADE,
    Total_Score smallint UNSIGNED NOT NULL,
   PRIMARY KEY (Score_ID, Player_ID)
);
```

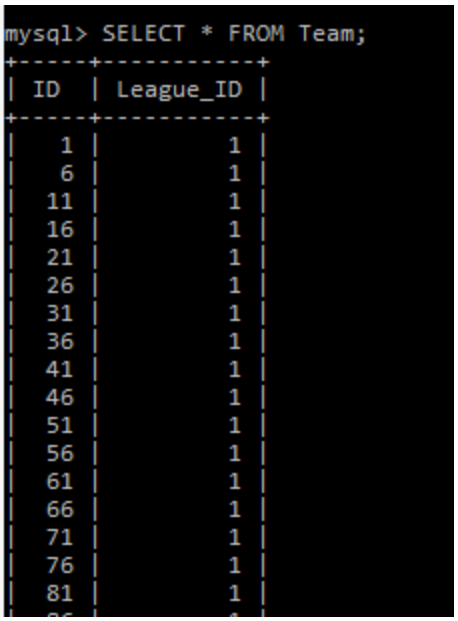
```
CREATE TABLE CompetitionTeams(
    Team_ID tinyint Unsigned Not Null,
    Match_ID tinyint Unsigned Not Null,
    Primary Key(Team_ID, Match_ID),
    Foreign Key(Team_ID) References Team(ID)
        On Update Cascade,
    Foreign Key(Match_ID) References Competition(ID)
        On Update Cascade
);

CREATE TABLE CompetitionTeamsWinner(
    Team_ID tinyint Unsigned Not Null,
    Match_ID tinyint Unsigned Not Null,
    Primary Key(Match_ID),
    Foreign Key(Team_ID) References Team(ID)
        On Update Cascade,
    Foreign Key(Match_ID) References Competition(ID)
        On Update Cascade
);
```

Database Samples:



```
+------------------------+
| Tables_in_esports      |
+------------------------+
| competition            |
| competitionteamswinner |
| competitonteams        |
| game                   |
| infraction             |
| league                 |
| player                 |
| player_restriction     |
| playerscore            |
| restriction            |
| score                  |
| scorelevel             |
| scorerank              |
| sponsor                |
| team                   |
| teamscore              |
| tournament             |
+------------------------+
17 rows in set (0.01 sec)
```


mysql> SELECT * FROM Team;
ID	League_ID
1	1
6	1
11	1
16	1
21	1
26	1
31	1
36	1
41	1
46	1
51	1
56	1
61	1
66	1
71	1
76	1
81	1

```
mysql> Select * FROM League;
+----+-----------------+--------------------------+
| ID | Name            | Country                  |
+----+-----------------+--------------------------+
|  1 | Winners Utd.    | Pakistan                 |
|  2 | Losers Dvd.     | United States of America |
|  3 | Regionals       | Canada                   |
|  4 | L'Internationale | Zimbabwe                 |
|  5 | EPEMAL2 League  | Mongolia                 |
|  6 | Winners Utd.    | Pakistan                 |
|  7 | Losers Dvd.     | United States of America |
|  8 | Regionals       | Canada                   |
|  9 | L'Internationale | Zimbabwe                 |
| 10 | EPEMAL2 League  | Mongolia                 |
| 11 | Winners Utd.    | Pakistan                 |
| 12 | Losers Dvd.     | United States of America |
| 13 | Regionals       | Canada                   |
| 14 | L'Internationale | Zimbabwe                 |
| 15 | EPEMAL2 League  | Mongolia                 |
| 16 | Winners Utd.    | Pakistan                 |
| 17 | Losers Dvd.     | United States of America |
| 18 | Regionals       | Canada                   |
| 19 | L'Internationale | Zimbabwe                 |
| 20 | EPEMAL2 League  | Mongolia                 |
| 21 | Winners Utd.    | Pakistan                 |
| 22 | Losers Dvd.     | United States of America |
| 23 | Regionals       | Canada                   |
| 24 | L'Internationale | Zimbabwe                 |
| 25 | EPEMAL2 League  | Mongolia                 |
| 26 | Winners Utd.    | Pakistan                 |
| 27 | Losers Dvd.     | United States of America |
| 28 | Regionals       | Canada                   |
| 29 | L'Internationale | Zimbabwe                 |
| 30 | EPEMAL2 League  | Mongolia                 |
| 31 | Winners Utd.    | Pakistan                 |
| 32 | Losers Dvd.     | United States of America |
| 33 | Regionals       | Canada                   |
| 34 | L'Internationale | Zimbabwe                 |
| 35 | EPEMAL2 League  | Mongolia                 |
+----+-----------------+--------------------------+
35 rows in set (0.00 sec)
```

```
mysql> Select * from restriction;
+---------+------------------+----------+
| R_Level | Text_Description | Duration |
+---------+------------------+----------+
|       1 | Permanent Ban    |        0 |
|       2 | Minor            |       24 |
|       3 | Temporary Ban    |        1 |
|       4 | Long Ban         |       12 |
+---------+------------------+----------+
4 rows in set (0.00 sec)
```

```
mysql> Select * from infraction;
+----+-------------------------+-------------+-------+-----------+
| ID | Text_Description        | Report_Date | Class | Player_ID |
+----+-------------------------+-------------+-------+-----------+
|  1 | Unsportsmanlike Conduct | 2025-02-18  |     2 |        18 |
|  2 | Modified Equipment      | 2024-11-13  |     6 |        32 |
|  3 | Fraud                   | 2023-01-03  |     5 |        24 |
|  4 | Physical Violence       | 2023-08-17  |    10 |        37 |
|  5 | Unsportsmanlike Conduct | 2025-03-23  |     6 |        23 |
|  6 | Cheating - Aimbot       | 2024-06-06  |     8 |        11 |
+----+-------------------------+-------------+-------+-----------+
6 rows in set (0.00 sec)
```

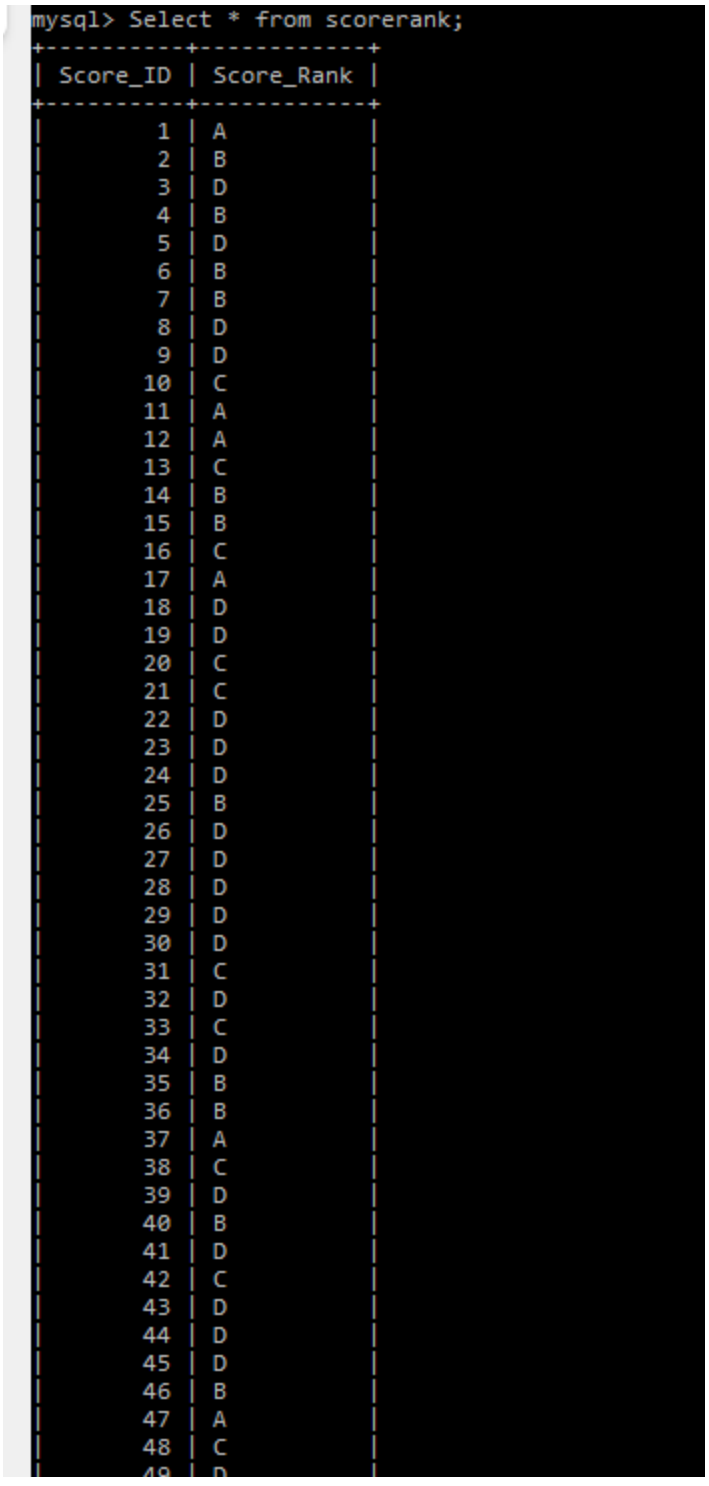
```
mysql> Select * from player_restriction;
+-----------+------------+------------+---------+
| Player_ID | Start_Date | Expiration | R_Level |
+-----------+------------+------------+---------+
|         9 | 2024-04-01 | 2026-04-01 |       2 |
|        11 | 2024-06-06 | 2025-06-06 |       4 |
|        23 | 2025-03-23 | 2025-04-23 |       3 |
|        37 | 2023-08-17 | 3000-01-01 |       1 |
|        39 | 2025-04-01 | 2027-04-01 |       2 |
+-----------+------------+------------+---------+
5 rows in set (0.00 sec)
```

```
mysql> SELECT * FROM Player;
+----+---------------------+------+--------+-----------------------------------------------------------+---------+
| ID | Player_Name         | Age  | Gender | Address                                                   | Team_ID |
+----+---------------------+------+--------+-----------------------------------------------------------+---------+
|  1 | Michele Macdonald   |   33 | N      | 4482 Amanda Loop, Figueroaview, NV 49234                  |       1 |
|  2 | Ashley Taylor       |   23 | N      | 6972 Gomez Mountains, Robinsonfort, NY 42213              |       8 |
|  3 | Trevor Mullen       |   30 | N      | 709 Anthony Mountains, Onealtown, NC 09211                |      13 |
|  4 | Gloria Miller       |   39 | M      | USCGC Smith, FPO AE 15725                                 |       2 |
|  5 | Christine Key       |   37 | F      | 329 Lee Mews Suite 562, Robertchester, NV 93408           |      10 |
|  6 | Dylan Stewart       |   19 | M      | 5667 Blair Underpass, South Shelby, VT 07027              |      16 |
|  7 | Rebecca Johnson     |   25 | M      | 0239 Salazar Squares, Kelseystad, NH 07571                |      19 |
|  8 | Crystal Black       |   18 | M      | USCGC Carpenter, FPO AA 33891                             |      15 |
|  9 | Janet Lewis         |   17 | M      | 25040 Bryce Meadow, New Randy, IN 59968                   |       2 |
| 10 | James Franklin      |   28 | M      | 5875 Johnson Cape, West Christopher, NC 45818             |       1 |
| 11 | Jacob Harris        |   41 | M      | 8647 Wiggins Garden Apt. 481, South Tylermouth, MT 65195  |       8 |
| 12 | Steven Wilson       |   39 | M      | 63791 Hansen Village, Williamsburgh, NM 29343             |       6 |
| 13 | David Pitts         |   18 | M      | USNV Vang, FPO AE 73515                                   |      11 |
| 14 | April Ward          |   39 | F      | 425 Martinez Forks, East Jennifer, OR 10985               |      13 |
| 15 | Crystal Gomez       |   21 | M      | 426 Young View Suite 405, Port Teresa, UT 33193           |      10 |
| 16 | Jared Vaughn        |   41 | M      | 03104 Warren Locks, Port James, WI 07754                  |      18 |
| 17 | Robert Carroll      |   42 | F      | 50276 Cook Skyway, Lake Jordanbury, KY 81885              |      16 |
| 18 | Patricia James      |   38 | F      | 54070 Fisher Gateway Apt. 525, East Katie, ID 22630       |      19 |
| 19 | Sandra Ramos        |   19 | F      | Unit 1686 Box 2047, DPO AP 42392                          |      14 |
| 20 | Paula White         |   45 | M      | 36901 Jared Bridge, Brendaborough, SC 68514               |       7 |
| 21 | Douglas Morris      |   31 | F      | 7323 Patrick Tunnel, South Veronica, KY 87012             |      14 |
| 22 | Ronald Aguilar      |   18 | F      | 5953 Miranda Divide, East Anthony, TN 54744               |       3 |
| 23 | Renee Chandler      |   38 | F      | 845 Kevin Parkways, Mariahfurt, MI 22789                  |       7 |
| 24 | Douglas Payne       |   38 | M      | PSC 0217, Box 3264, APO AP 36556                          |       4 |
| 25 | Angela Obrien       |   25 | F      | 79722 Steven Vista Suite 545, East Andrew, OR 69443       |       9 |
| 26 | David Warner        |   41 | F      | PSC 8681, Box 7754, APO AP 70521                          |       6 |
| 27 | Seth Taylor         |   36 | F      | 3706 Heather Prairie, Jeremyfort, UT 91286                |       9 |
| 28 | Dustin Ferguson     |   23 | M      | 5145 Carroll Coves Suite 593, Moniquemouth, IN 89149      |      20 |
| 29 | Lauren Caldwell     |   21 | M      | 72004 Emily Passage, South Craigport, VT 90474            |       3 |
| 30 | Julie Wiggins       |   24 | M      | 6290 Thomas Mill, Aprilbury, MA 93053                     |      20 |
| 31 | Erin Rhodes         |   43 | F      | 62197 Timothy Radial, East Patrickside, IL 08623          |      15 |
| 32 | Heidi Mckee         |   29 | M      | 3741 Adam Crescent, New Nicole, IA 99776                  |      12 |
| 33 | Wesley Shaw         |   44 | M      | 7430 Armstrong Fort Suite 460, Elizabethborough, ID 72780 |      12 |
| 34 | Shawn Hernandez     |   22 | M      | 7604 Hill Plains, East Haroldview, MA 25751               |       4 |
| 35 | Sabrina Drake       |   27 | F      | 7116 Christopher Village Apt. 857, Williamview, MO 39232  |       5 |
| 36 | Michael Schmidt     |   40 | M      | 21937 Robert Shoal, Johnbury, NH 38955                    |      11 |
| 37 | Christopher Gonzalez |   34 | F      | 69774 Anthony Greens Apt. 376, North Brittany, LA 30641   |       5 |
| 38 | Bryan Harrison      |   31 | F      | USNS Mitchell, FPO AA 91235                               |      17 |
| 39 | Victor Gutierrez    |   16 | M      | 37233 Jimmy Center, Port Shane, RI 02311                  |      17 |
| 40 | Emily Butler        |   43 | F      | 70618 Brewer Vista, South Johnmouth, MS 75763             |      18 |
+----+---------------------+------+--------+-----------------------------------------------------------+---------+
```

```
mysql> Select * From game;
+----+----------------------+---------------------------+
| ID | Genre                | Title                     |
+----+----------------------+---------------------------+
|  0 | Battle Royale        | Fortnite                  |
|  1 | First Person Shooter | Halo: Infinite            |
|  2 | MOBA                 | League of Legends         |
|  3 | MOBA                 | Deadlock                  |
|  4 | Racing               | Garfield Kart             |
|  5 | Fighting             | Super Smash Bros Ultimate |
|  6 | Fighting             | Tekken 8                  |
|  7 | First Person Shooter | Call of Duty Black Ops 6  |
|  8 | First Person Shooter | CS:GO 2                   |
|  9 | Third Person Shooter | Marvel Rivals             |
| 10 | Action               | Elden Ring: Nightreign    |
+----+----------------------+---------------------------+
```

```
mysql> Select * from score;
+-----+----------------+
| ID  | Competition_ID |
+-----+----------------+
|   1 |              0 |
|   2 |              0 |
|   3 |              0 |
|   4 |              0 |
|   5 |              0 |
|   6 |              0 |
|   7 |              1 |
|   8 |              1 |
|   9 |              1 |
|  10 |              1 |
|  11 |              1 |
|  12 |              1 |
|  13 |              2 |
|  14 |              2 |
|  15 |              2 |
|  16 |              2 |
|  17 |              2 |
|  18 |              2 |
```

```
mysql> Select * from playerscore;
+----------+-----------+-------------+
| Score_ID | Player_ID | Total_Score |
+----------+-----------+-------------+
|        1 |         1 |          84 |
|        2 |        10 |          73 |
|        3 |         4 |          22 |
|        4 |         9 |          56 |
|        7 |        22 |          78 |
|        8 |        29 |          24 |
|        9 |        24 |          34 |
|       10 |        34 |          51 |
|       13 |        35 |          53 |
|       14 |        37 |          64 |
|       15 |        12 |          62 |
|       16 |        26 |          79 |
|       19 |        20 |          38 |
|       20 |        23 |          46 |
|       21 |         2 |          44 |
|       22 |        11 |          23 |
|       25 |        25 |          66 |
|       26 |        27 |          34 |
|       27 |         5 |          19 |
|       28 |        15 |          37 |
|       31 |        13 |          53 |
|       32 |        36 |          38 |
|       33 |        32 |          53 |
|       34 |        33 |          33 |
|       37 |         3 |          81 |
|       38 |        14 |          43 |
|       39 |        19 |          38 |
|       40 |        21 |          67 |
|       43 |         8 |          25 |
|       44 |        31 |          22 |
|       45 |         6 |          38 |
|       46 |        17 |          79 |
|       49 |        38 |          15 |
|       50 |        39 |          53 |
|       51 |        16 |          34 |
|       52 |        40 |          81 |
|       55 |         7 |          88 |
|       56 |        18 |          56 |
|       57 |        28 |          34 |
|       58 |        30 |          15 |
|       61 |         1 |          38 |
|       62 |        10 |          35 |
|       63 |        28 |          13 |
|       64 |        30 |          63 |
|       67 |         4 |          59 |
```



```
mysql> Select * from scorerank;
+----------+------------+
| Score_ID | Score_Rank |
+----------+------------+
|        1 | A          |
|        2 | B          |
|        3 | D          |
|        4 | B          |
|        5 | D          |
|        6 | B          |
|        7 | B          |
|        8 | D          |
|        9 | D          |
|       10 | C          |
|       11 | A          |
|       12 | A          |
|       13 | C          |
|       14 | B          |
|       15 | B          |
|       16 | C          |
|       17 | A          |
|       18 | D          |
|       19 | D          |
|       20 | C          |
|       21 | C          |
|       22 | D          |
|       23 | D          |
|       24 | D          |
|       25 | B          |
|       26 | D          |
|       27 | D          |
|       28 | D          |
|       29 | D          |
|       30 | D          |
|       31 | C          |
|       32 | D          |
|       33 | C          |
|       34 | D          |
|       35 | B          |
|       36 | B          |
|       37 | A          |
|       38 | C          |
|       39 | D          |
|       40 | B          |
|       41 | D          |
|       42 | C          |
|       43 | D          |
|       44 | D          |
|       45 | D          |
|       46 | B          |
|       47 | A          |
|       48 | C          |
|       49 | D          |
```

```
mysql> Select * from scorelevel;
+----------+-----------+
| Score_ID | Scr_Level |
+----------+-----------+
|        1 | Player    |
|        2 | Player    |
|        3 | Player    |
|        4 | Player    |
|        5 | Team      |
|        6 | Team      |
|        7 | Player    |
|        8 | Player    |
|        9 | Player    |
|       10 | Player    |
|       11 | Team      |
|       12 | Team      |
|       13 | Player    |
|       14 | Player    |
|       15 | Player    |
|       16 | Player    |
|       17 | Team      |
|       18 | Team      |
|       19 | Player    |
|       20 | Player    |
|       21 | Player    |
|       22 | Player    |
|       23 | Team      |
|       24 | Team      |
|       25 | Player    |
|       26 | Player    |
```

```
mysql> Select *FROm competition;
+----+------------+----------+----------+--------+---------+---------------+
| ID | Start_Time | End_Time | Duration | Replay | Game_ID | Tournament_ID |
+----+------------+----------+----------+--------+---------+---------------+
|  0 | 10:15:00   | 12:45:00 | NULL     | NULL   |       7 |             0 |
|  1 | 11:15:00   | 13:45:00 | NULL     | NULL   |       0 |             0 |
|  2 | 12:15:00   | 14:45:00 | NULL     | NULL   |       1 |             0 |
|  3 | 13:15:00   | 15:45:00 | NULL     | NULL   |       8 |             0 |
|  4 | 14:15:00   | 16:45:00 | NULL     | NULL   |       0 |             0 |
|  5 | 15:15:00   | 17:45:00 | NULL     | NULL   |       0 |             0 |
|  6 | 16:15:00   | 18:45:00 | NULL     | NULL   |       8 |             0 |
|  7 | 17:15:00   | 19:45:00 | NULL     | NULL   |       4 |             1 |
|  8 | 18:15:00   | 20:45:00 | NULL     | NULL   |       6 |             1 |
|  9 | 19:15:00   | 21:45:00 | NULL     | NULL   |       4 |             1 |
| 10 | 20:15:00   | 22:45:00 | NULL     | NULL   |       0 |             1 |
| 11 | 21:15:00   | 23:45:00 | NULL     | NULL   |       0 |             1 |
| 12 | 10:00:00   | 12:45:00 | NULL     | NULL   |       4 |             1 |
| 13 | 10:30:00   | 12:45:00 | NULL     | NULL   |       2 |             2 |
| 14 | 11:00:00   | 12:45:00 | NULL     | NULL   |       2 |             2 |
| 15 | 11:30:00   | 12:45:00 | NULL     | NULL   |       2 |             2 |
| 16 | 11:00:00   | 12:45:00 | NULL     | NULL   |       3 |             2 |
| 17 | 12:00:00   | 12:45:00 | NULL     | NULL   |       0 |             0 |
| 18 | 12:45:00   | 12:45:00 | NULL     | NULL   |       0 |             1 |
| 19 | 14:35:00   | 12:45:00 | NULL     | NULL   |       2 |             2 |
| 20 | 15:47:00   | 12:45:00 | NULL     | NULL   |       0 |             3 |
| 21 | 19:45:00   | 20:25:00 | NULL     | NULL   |       1 |             0 |
| 22 | 13:12:00   | 14:01:00 | NULL     | NULL   |       6 |             0 |
+----+------------+----------+----------+--------+---------+---------------+
23 rows in set (0.00 sec)
```

```
mysql> Select * from competitionteamswinner;
+---------+----------+
| Team_ID | Match_ID |
+---------+----------+
|       1 |       10 |
|       2 |        0 |
|       4 |        1 |
|       5 |        2 |
|       5 |       14 |
|       5 |       21 |
|       6 |       15 |
|       8 |        3 |
|       8 |       17 |
|       8 |       20 |
|       9 |        4 |
|       9 |       18 |
|      11 |       19 |
|      12 |        5 |
|      14 |        6 |
|      14 |       16 |
|      15 |        7 |
|      16 |       22 |
|      17 |       13 |
|      18 |        8 |
|      18 |       12 |
|      19 |        9 |
|      19 |       11 |
+---------+----------+
23 rows in set (0.00 sec)
```

```
mysql> Select * from sponsor;
+----+---------------------------+
| ID | Name                      |
+----+---------------------------+
|  0 | Weyland-Yutani            |
|  1 | Vaultec                   |
|  2 | Raytheon                  |
|  3 | Lumon                     |
|  4 | Buy n' Large              |
|  5 | Blackrock                 |
|  6 | Soylent Green             |
|  7 | United Healthcare         |
|  8 | Nestle                    |
|  9 | Lockheed Martin           |
| 10 | The Great British Bakeoff |
| 11 | Texas Instruments         |
+----+---------------------------+
12 rows in set (0.00 sec)
```

```
mysql> select * From teamscore;
+----------+---------+-------------+
| Score_ID | Team_ID | Total_Score |
+----------+---------+-------------+
|        5 |       1 |          34 |
|        6 |       2 |          59 |
|       11 |       3 |          81 |
|       12 |       4 |          88 |
|       17 |       5 |          95 |
|       18 |       6 |          15 |
|       23 |       7 |          19 |
|       24 |       8 |          28 |
|       29 |       9 |          21 |
|       30 |      10 |          10 |
|       35 |      11 |          62 |
|       36 |      12 |          69 |
|       41 |      13 |          14 |
|       42 |      14 |          53 |
|       47 |      15 |          99 |
|       48 |      16 |          43 |
|       53 |      17 |          55 |
|       54 |      18 |          78 |
|       59 |      19 |          32 |
|       60 |      20 |          15 |
|       65 |       1 |          64 |
|       66 |      20 |          52 |
|       71 |       2 |          13 |
|       72 |      19 |          53 |
|       77 |       3 |          34 |
|       78 |      18 |          65 |
|       83 |       4 |          43 |
|       84 |      17 |          44 |
|       89 |       5 |          63 |
|       90 |      16 |          34 |
|       95 |       6 |          85 |
|       96 |      15 |          36 |
|      101 |       7 |          16 |
|      102 |      14 |          34 |
|      107 |       8 |          65 |
|      108 |      13 |          23 |
|      113 |       9 |          61 |
|      114 |      12 |          35 |
|      119 |      11 |          88 |
|      120 |      10 |          13 |
|      125 |       8 |          57 |
|      126 |       3 |          35 |
|      131 |      12 |          36 |
|      132 |       5 |          66 |
|      137 |      16 |          50 |
|      138 |      20 |          37 |
+----------+---------+-------------+
46 rows in set (0.00 sec)
```

```
mysql> select * From tournament;
+----+------------+------------+
| ID | Date       | Sponsor_ID |
+----+------------+------------+
|  0 | 2020-12-15 |          5 |
|  1 | 2021-12-15 |          7 |
|  2 | 2025-12-15 |          9 |
|  3 | 2021-12-15 |          2 |
|  4 | 2022-12-15 |         11 |
|  5 | 2023-12-15 |          6 |
|  6 | 2025-12-15 |          3 |
|  7 | 2022-12-15 |         10 |
|  8 | 2024-12-15 |          4 |
|  9 | 2026-12-15 |          1 |
| 10 | 2023-12-15 |          8 |
| 11 | 2021-12-15 |          0 |
| 12 | 2020-12-15 |          7 |
| 13 | 2025-12-15 |         10 |
| 14 | 2020-12-15 |          4 |
| 15 | 2025-12-15 |          2 |
| 16 | 2022-12-15 |          9 |
+----+------------+------------+
17 rows in set (0.00 sec)
```

- **SQL Scripts Used**
    - Data types
    - Tables created

-- PLAYER, INFRACTION, RESTRICTION, PLAYER_RESTRICTION TEST QUERIES

-- number of players of each gender.

SELECT count(ID) as Player_Count, Gender

FROM player

GROUP BY Gender;

```
+--------------+--------+
| Player_Count | Gender |
+--------------+--------+
|            3 | N      |
|           21 | M      |
|           16 | F      |
+--------------+--------+
3 rows in set (0.02 sec)
```

-- select players whose infractions caused a restriction

SELECT player.ID, player.Player_Name, infraction.Text_Description as Infraction, infraction.Class as "Severity(1-10)", restriction.Text_Description as Restriction, player_restriction.Expiration

FROM player

INNER JOIN infraction ON infraction.Player_ID = player.ID

INNER JOIN player_restriction ON player.ID = player_restriction.Player_ID

INNER JOIN restriction ON player_restriction.R_Level = restriction.R_Level;

ID	Player_Name	Infraction	Severity(1-10)	Restriction	Expiration
37	Christopher Gonzalez	Physical Violence	10	Permanent Ban	3000-01-01
23	Renee Chandler	Unsportsmanlike Conduct	6	Temporary Ban	2025-04-23
11	Jacob Harris	Cheating - Aimbot	8	Long Ban	2025-06-06

3 rows in set (0.00 sec)

-- select teams with at least two eligible players

SELECT player.Team_ID

FROM player

LEFT JOIN player_restriction ON player.ID = player_restriction.Player_ID

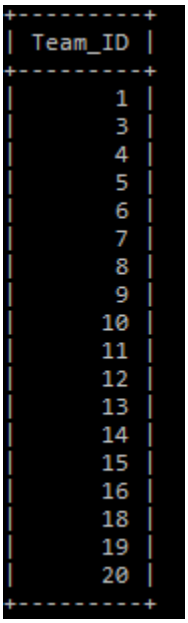
WHERE player_restriction.R_Level IS NULL OR player_restriction.R_Level = 2

GROUP BY Team_ID

HAVING COUNT(player.ID) >= 2;

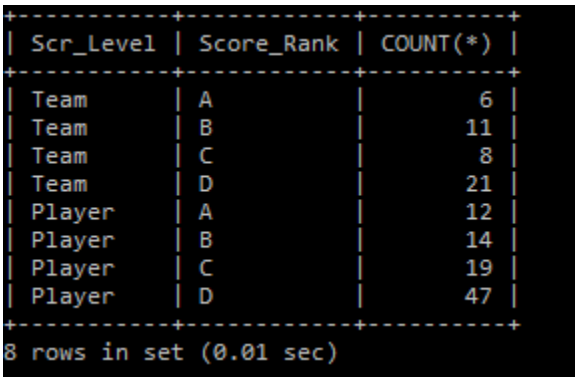
Team_ID
1
2
3
4
6
9
10
11
12
13
14
15
16
17
18
19
20

```
-- select teams with no minors for 18+ tournament
SELECT player.Team_ID
FROM player
LEFT JOIN player_restriction ON player.ID = player_restriction.Player_ID
WHERE player_restriction.R_Level IS NULL OR player_restriction.R_Level != 2
GROUP BY Team_ID
HAVING COUNT(player.ID) >= 2;
```



Team_ID
1
3
4
5
6
7
8
9
10
11
12
13
14
15
16
18
19
20

```
-- SCORE QUERIES
-- How many scores of each grade by player and team
SELECT sl.Scr_Level, sr.Score_Rank, COUNT(*)
FROM Score s
INNER JOIN ScoreLevel sl ON sl.Score_ID = s.ID
INNER JOIN ScoreRank sr ON sr.Score_ID = s.ID
GROUP BY sl.Scr_Level, sr.Score_Rank
ORDER BY sl.Scr_Level DESC, sr.Score_Rank ASC;
```

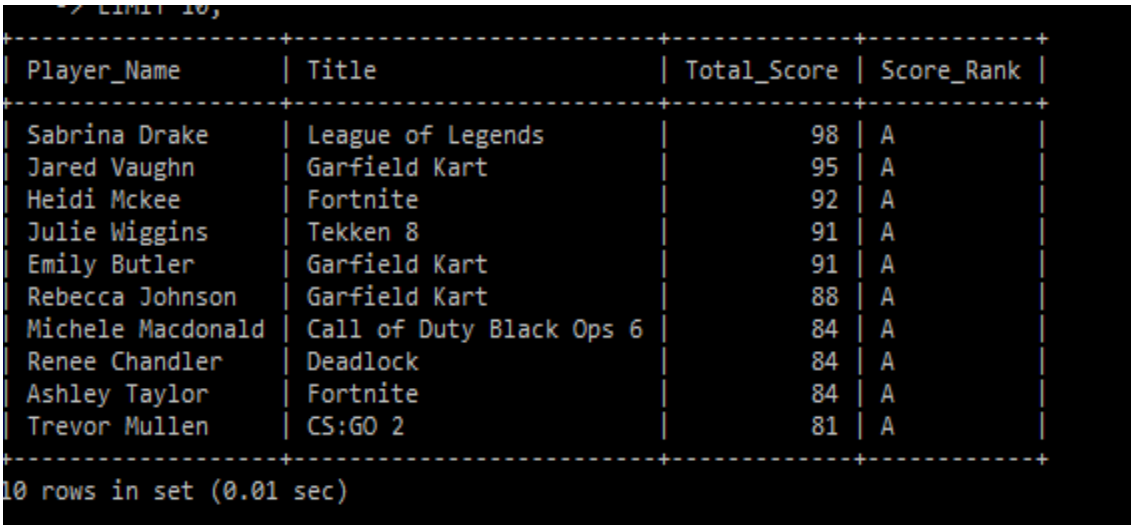


Scr_Level	Score_Rank	COUNT(*)
Team	A	6
Team	B	11
Team	C	8
Team	D	21
Player	A	12
Player	B	14
Player	C	19
Player	D	47

8 rows in set (0.01 sec)

-- Top ten player scores

```
SELECT p.Player_Name, g.Title, ps.Total_Score, sr.Score_Rank
FROM PlayerScore ps
INNER JOIN Score s ON ps.Score_ID = s.ID
INNER JOIN ScoreRank sr ON sr.Score_ID = s.ID
INNER JOIN Competition c ON c.ID = s.Competition_ID
INNER JOIN Game g ON g.ID = c.Game_ID
INNER JOIN Player p ON p.ID = ps.Player_ID
ORDER BY ps.Total_Score DESC
LIMIT 10;
```

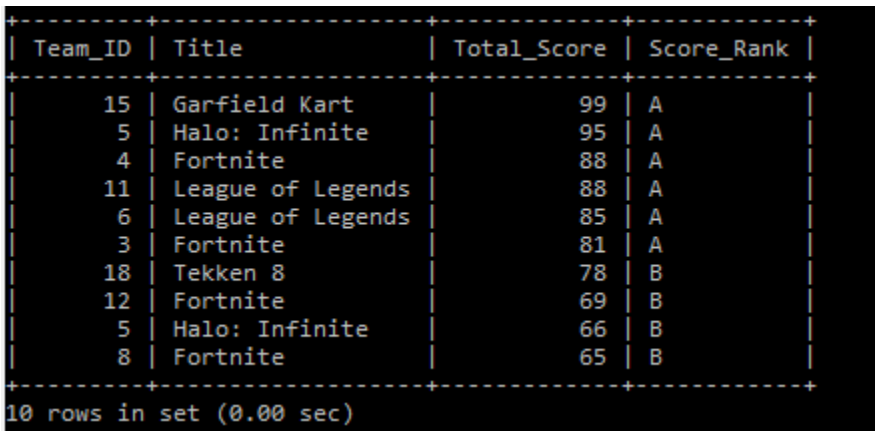


Player_Name	Title	Total_Score	Score_Rank
Sabrina Drake	League of Legends	98	A
Jared Vaughn	Garfield Kart	95	A
Heidi Mckee	Fortnite	92	A
Julie Wiggins	Tekken 8	91	A
Emily Butler	Garfield Kart	91	A
Rebecca Johnson	Garfield Kart	88	A
Michele Macdonald	Call of Duty Black Ops 6	84	A
Renee Chandler	Deadlock	84	A
Ashley Taylor	Fortnite	84	A
Trevor Mullen	CS:GO 2	81	A

10 rows in set (0.01 sec)

-- Top ten team scores

```
SELECT t.ID AS Team_ID, g.Title, ts.Total_Score, sr.Score_Rank
FROM TeamScore ts
INNER JOIN Score s ON ts.Score_ID = s.ID
INNER JOIN ScoreRank sr ON sr.Score_ID = s.ID
INNER JOIN Competition c ON c.ID = s.Competition_ID
INNER JOIN Game g ON g.ID = c.Game_ID
INNER JOIN Team t ON t.ID = ts.Team_ID
ORDER BY ts.Total_Score DESC
LIMIT 10;
```



Team_ID	Title	Total_Score	Score_Rank
15	Garfield Kart	99	A
5	Halo: Infinite	95	A
4	Fortnite	88	A
11	League of Legends	88	A
6	League of Legends	85	A
3	Fortnite	81	A
18	Tekken 8	78	B
12	Fortnite	69	B
5	Halo: Infinite	66	B
8	Fortnite	65	B

10 rows in set (0.00 sec)

-- Average player performance by game

```
SELECT g.Title, ROUND(AVG(ps.Total_Score), 1) AS Performance
FROM PlayerScore ps
INNER JOIN Score s ON s.ID = ps.Score_ID
INNER JOIN Competition c ON c.ID = s.Competition_ID
INNER JOIN Game g ON g.ID = c.Game_ID
GROUP BY g.Title
ORDER BY Performance DESC;
```

Title	Performance
Call of Duty Black Ops 6	58.8
Halo: Infinite	51.4
Garfield Kart	49.7
Deadlock	48.8
CS:GO 2	47.5
Tekken 8	46.4
Fortnite	45.8
League of Legends	42.2

8 rows in set (0.01 sec)

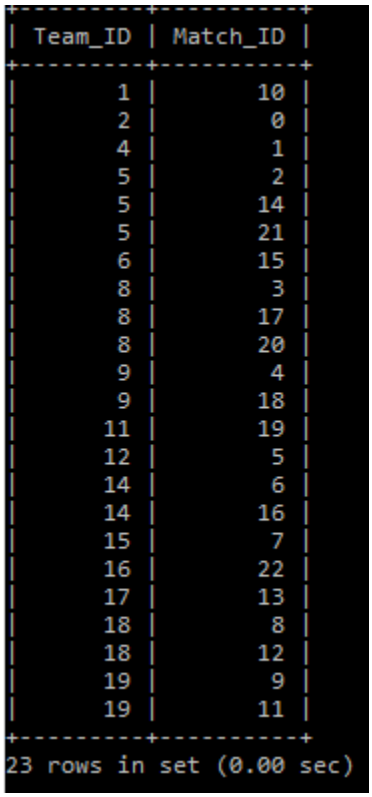
-- Average team performance by game

```
SELECT g.Title, ROUND(AVG(ts.Total_Score), 1) AS Performance
FROM TeamScore ts
INNER JOIN Score s ON s.ID = ts.Score_ID
INNER JOIN Competition c ON c.ID = s.Competition_ID
INNER JOIN Game g ON g.ID = c.Game_ID
GROUP BY g.Title
ORDER BY Performance DESC;
```

Title	Performance
Tekken 8	55.0
Halo: Infinite	53.0
League of Legends	50.8
Fortnite	49.3
Garfield Kart	48.0
Call of Duty Black Ops 6	46.5
CS:GO 2	28.5
Deadlock	25.0

8 rows in set (0.00 sec)

SELECT * FROM CompetitionTeamsWinner;



Team_ID	Match_ID
1	10
2	0
4	1
5	2
5	14
5	21
6	15
8	3
8	17
8	20
9	4
9	18
11	19
12	5
14	6
14	16
15	7
16	22
17	13
18	8
18	12
19	9
19	11

23 rows in set (0.00 sec)

- **Time Log of Each Members**