

- Basketball Olympic games

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## General Description

In this project we will describe how a basketball Olympic games are played.

In a basketball game there is two teams. For each team there are players who play for the team and a coaching staff that runs the team. each player has a number that represent him in the game/system. Each player of the team has a role/position in the game (i.e., center, small forward etc.) also, we are keeping track of the amount of fouls and point a player commit/score height and weight.

the team's coaching staff has a head coach (and usually 2 to 3 coaching assistants).

The game is divided to 4 quarters, 10 minutes each, the team that score the most point win the game. In our system we will help keep all this information by managing it with our SQL database. (More on how the system work in the requirements).

in this document we will describe the user types of the system, the entities, and the ERD of the system-.

## System Requirements

A new Basketball Olympic System to help computerize the league's data for all current and future Olympic games, statistic methods (i.e., tallest player of each team, etc.).

In our system you can make a new league (distinct by league ID) and adding all the teams, players, coaches, referees who participate in that event and the matches that played and their scores.

Every person in the system (player, employee) will first be a person that is represented by

the person table, in addition, the coaches and the referees are 2 types of employees for this system.

The employees are a part of a staff that is then attached to a team / match.

Every match has a distinct 'game id' and in must be link to a league (by league ID).

You can also Calculate the winner of a league. The calculation calculates how many times a nation won, multiply it by 3 and then print the nation with the most points.

## **There are three types of users that use the system:**

### **Olympic League Management**

The Olympic league management can

1. Get Game with the widest score gap.
2. Get team and their total points by Team Nationality.
3. Show the team that got the most wins.
4. Get the team that do the most fouls.
5. Get the team with the largest age gap between two players.
6. Show the tallest player from all teams.
7. Show the average salary for each staff.
8. Count employees on Staff.
9. Get the Player and team nation by cell phone number.
10. Get teams and filter by total points.
11. Add Person
12. Add Player
13. Delete Referee Employee

### **Match Management**

1. Get List of referees after providing game id.
2. Get the age average of specific game.
3. Get total points by game ID.
4. Get all games from a time.
5. Get how many times 2 teams play with each other.
6. Get Coaches staff by game ID.
7. Get players played by giving specific date.
8. Get a team by staff id.
9. Get list of players by giving position and game id.
10. Get tallest player by giving game ID.
11. Add a game
12. Update score for a game and update the winner
13. Update the winner of olympic

### **Fan**

1. Get list of games by Team Nationality.
2. Get list of games by Winner.
3. Get list of games from a specific date.
4. Get list of games from date to date.
5. Get Team by player name.
6. Get First and Last games by team nation.
7. Get Games by player name.
8. Get players by giving nation.
9. Get role of player by player number.
10. Get game details by two nations.
11. Buy tickets and update it on Olympic league

Log files for critical tables:

1. Olympic League Log
2. Players log – change when player added
3. Person log – change when person added
4. Game log – change when game added or scored updated
5. Referee log – change when referee deleted
6. Team log – change when score calculated

Description of system entities-

PK,FK

Person- ID, First name, Last name, Gender, Age, Phone.

Player- Player\_Number, position, Height, Weight, TotalFouls, TotalPoints, ID(Person ID) ,  
Nationality

Team- Nationality, Staff\_ID, League\_ID

Referee - ID(Employee ID), Staff\_ID

Coach - ID(Employee ID), Staff\_ID

Employee- Employee\_ID, Salary, Role, ID(Person ID).

Olympic League- League\_ID, Location, DateOfStart, DateOfEnd, Num\_Teams,

Game - GameID, TeamAID, TeamBID, Staff\_ID, DateTime, TeamAScore, TeamBScore,  
Winner, League\_ID

Staff – Staff\_ID.

