CMP 420 Final Project

Robert Guzman 05/23

ROBERT GUZMAN

What is the most games play by a team?

Final Project

I am currently in the process of developing a comprehensive database specifically tailored for sports and seeing which team has the most games play in our database. The main reason behind this unique Idea is to see different players different sports and see which team has the most game play by the end of our database. We can assume that as sports enthusiastic we would like to know which of our favorite's teams have that many games which team has the most games play.

EER diagram

I utilized the renowned draw.io tool to meticulously construct an EER diagram comprising approximately 10 entities and incorporating 6 relations that intricately shape our database. Among the prominent entities, the player entity stands out, boasting an array of attributes, while seamlessly intertwining with other interconnected entities.

Within the sport database, we encounter the TEAMS entity, wherein each team possesses a unique identity, a distinctive name, a location, and a collection of games associated with them. Transitioning to the GAMES entity, we encounter essential attributes such as the date, and notably, primary keys and foreign keys play a crucial role. The primary key, game_id, serves as a unique identifier, while foreign keys, namely hometeam_id and awayteam_id, establish connections to the respective teams involved in the game. Lastly, we delve into the LEAGUE entity, which serves as the overarching framework in which teams compete. It encapsulates the dynamic realm in which various teams participate, embracing the diverse sports they engage in. Our database specifically caters to the captivating domains of baseball (MLB) and basketball (NBA), although it remains adaptable to accommodate any sport within its versatile structure.

Relational Model

The diagrams I have created vividly showcase the interwoven relational connections among them. As we delve deeper into the intricacies of the scenario, we encounter the distinct tables that constitute the foundation of our database design. In this phase, we meticulously break down the diagram and transform it into a set of coherent tables. As we continue onward, we are presented with an array of tables, each meticulously crafted to capture a specific aspect of our database.

It is noteworthy that every table within this intricate framework is inherently interconnected, establishing seamless relationships with one another. This symbiotic interplay is facilitated through the utilization of primary keys (PK) and foreign keys (FK), which serve as vital connectors across the tables. These keys serve as the cornerstone, ensuring the integrity and coherence of the data within the database.

By incorporating these PK-FK relationships, we have established a robust foundation, where data flows seamlessly across the tables, enabling efficient querying and retrieval of information.

This relational structure not only ensures data consistency but also facilitates intricate data analysis and decision-making processes.

In summary, the diagrams I have created adeptly capture the relational essence of the database. Through the construction of interconnected tables, we establish a cohesive and comprehensive representation of the data, where PK-FK relationships serve as the linchpin, fostering a harmonious flow of information. The queries for the table are down below

Queries

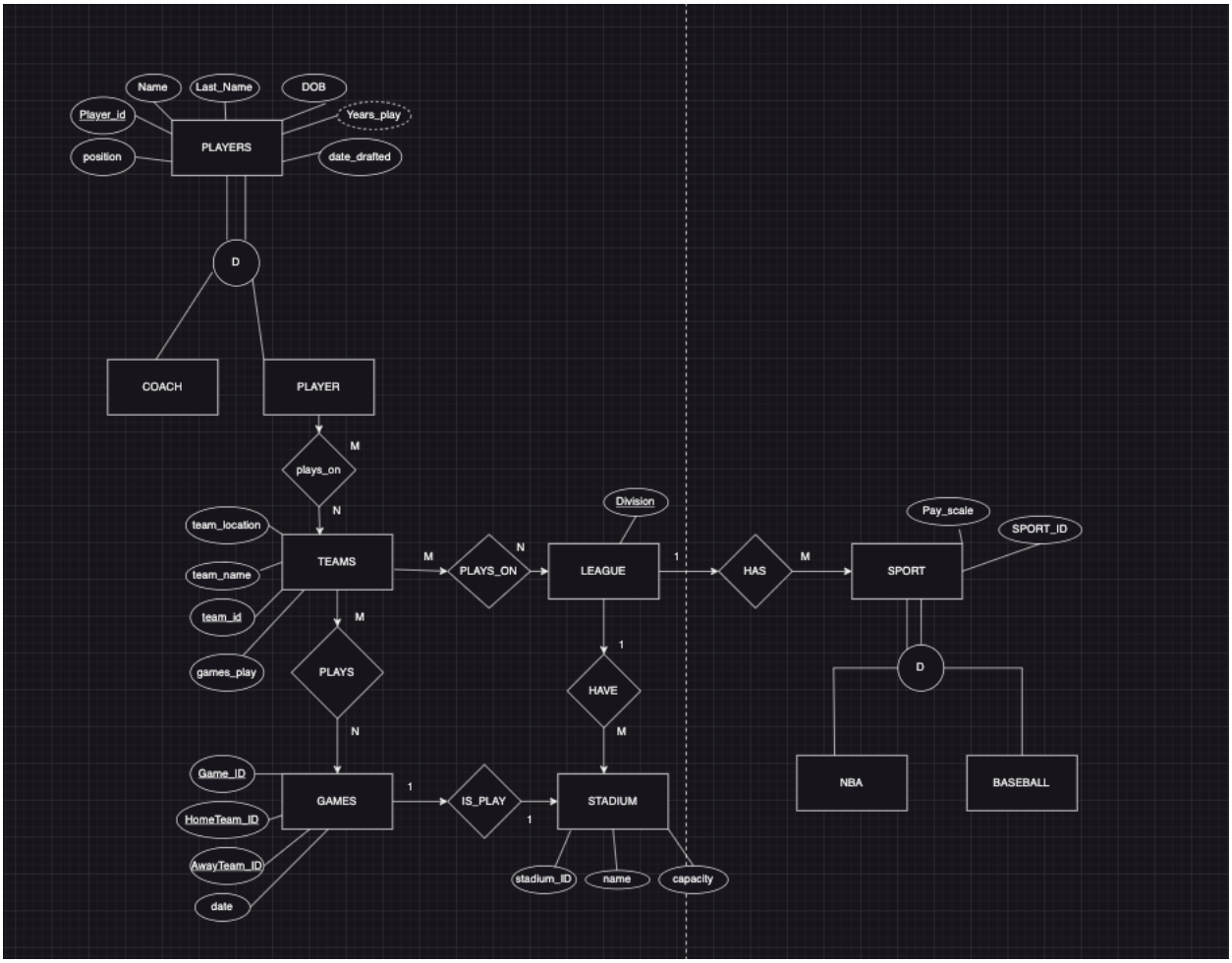
The project queries is actually very fun once you get to understand it very well so meaning in this project I really like writing queries in sql. The queries for the table are down below.
create table players;

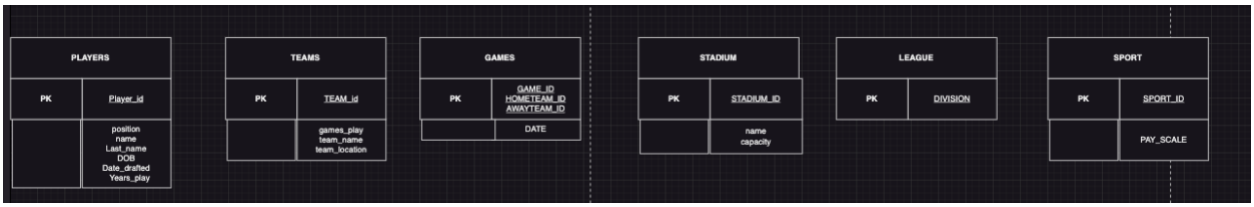
```
CREATE TABLE `players` (
  `player_id` mediumint(8) unsigned NOT NULL auto_increment,
  `name` varchar(255) default NULL,
  `Position` TEXT default NULL,
  `dob` varchar(255),
  `date_drafted` varchar(255),
  `years_play` mediumint default NULL,
  PRIMARY KEY (`player_id`)
) AUTO_INCREMENT=1;

INSERT INTO `players` (`name`,`Position`,`dob`,`date_drafted`,`years_play`)
VALUES
  ("Guy Ford","SHORTSTOP,","Mar 8, 1988","Jan 20, 2024",7),
  ("Rina Rogers","SMALLF","Jun 27, 1988","Aug 26, 2022",0),
  ("Micah Foster","CATCHER","Feb 10, 1993","Dec 14, 2022",10),
  ("Lewis Robles","PITCHER,","Dec 20, 1991","Oct 9, 2022",5),
  ("Kasimir Frank","SHOOTINGG,","Sep 14, 1989","Aug 21, 2022",2);

  select * from players;

  CREATE TABLE `teams` (
  `team_id` mediumint(8) unsigned NOT NULL auto_increment,
  `games_play` mediumint default NULL,
  `team_name` TEXT default NULL,
  `name` TEXT default NULL,
  PRIMARY KEY (`team_id`)
) AUTO_INCREMENT=1;
```

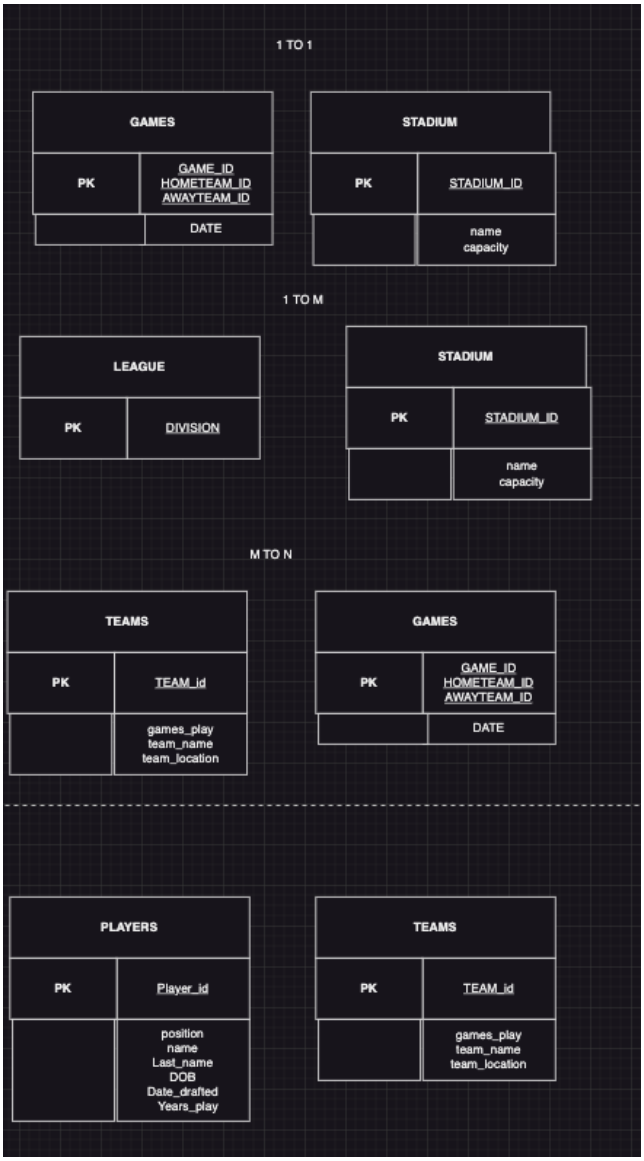
```
INSERT INTO `teams` (`games_play`,`team_name`,`name`)
VALUES
 (201,"Marlins","Chicago"),
 (175,"Angeles","Arizona"),
 (152,"Clippers","Chicago"),
 (58,"Phillies","Chicago"),
 (27,"Golden","Baltimore");

  select * from teams;
```

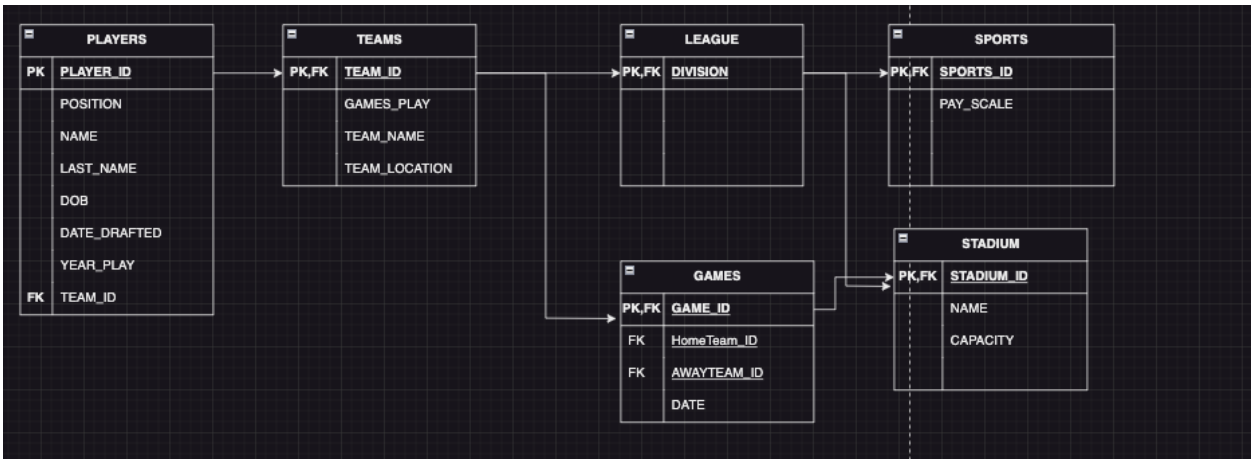
What is the most games play by a team?

```
Select MAX(games_play) from teams;
```




PLAYERS
PK
Player_id
position
name
Last_name
DOB
Date_drafted
Years_play
TEAMS
PK
TEAM_id
games_play
team_name
team_location
GAMES
PK
GAME_ID
HOMETEAM_ID
AWAYTEAM_ID
DATE
STADIUM
PK
STADIUM_ID
name
capacity
LEAGUE
PK
DIVISION
SPORT
PK
SPORT_ID
PAY_SCALE


1 TO 1
GAMES
PK
GAME_ID
HOMETEAM_ID
AWAYTEAM_ID
DATE
STADIUM
PK
STADIUM_ID
name
capacity
1 TO M
LEAGUE
PK
DIVISION
STADIUM
PK
STADIUM_ID
name
capacity
M TO N
TEAMS
PK
TEAM_id
games_play
team_name
team_location
GAMES
PK
GAME_ID
HOMETEAM_ID
AWAYTEAM_ID
DATE
PLAYERS
PK
Player_id
position
name
Last_name
DOB
Date_drafted
Years_play
TEAMS
PK
TEAM_id
games_play
team_name
team_location



Conclusion

In conclusion, this project has been a highly valuable endeavor, despite the challenges I faced in working with queries, which have always been a bit difficult for me to grasp. Nevertheless, I am determined to continue expanding this project, as it serves as an impressive showcase for future technical interviews and provides a solid foundation of SQL knowledge for my upcoming internship.

One noteworthy aspect is that I undertook this project as an individual endeavor, which greatly contributed to the enhancement of my SQL skills. Working independently allowed me to delve deep into the intricacies of SQL, honing my abilities and further developing my understanding of the subject matter.

Moving forward, I am excited about the prospects of this project, both in terms of personal growth and professional opportunities. It has provided me with a tangible demonstration of my SQL expertise and will undoubtedly serve as a valuable reference point as I pursue future endeavors in the field.