Final Report on Database

By: Joshua Rao

My database is based on how the National Basketball Association operates and record the names, salaries, and game statistics of each player, coach, owner, and commissioner. The commissioner table is the table on “top” and has no foreign keys. Each table for an owner has just the owner’s name, net worth, and ownerID. The ‘team’ table contains a foreign key from the ‘coach’ table (coachID) as well as the ‘owner’ table (ownerID). A NBA team has one coach and one owner and this is properly shown in the table. A coach is hired by one team and this relationship is present in the E/R diagram. This one-to-one relationship did not require an additional table just for the relationship so each table contains the coach which it has hired.

In a different direction, the ‘team’ table and ‘player’ table exercise a one-to-many relationship because one team has many players and each player can only play for one team. I have given each team in my schema three players. This is established by giving each “player” in the ‘player’ table their respective teamID for better execution of queries. One thing which I came across is that you could also search for players and their stats by searching for their ‘team name’ which is included in the ‘player\_game\_stats’ table. I have decided against using this string variable in most of my queries mostly to save time and I instead search for this information using their teamID.

A many-to-many relationship exists between the ‘team’ table and ‘game’ table because there are two teams in a game and multiple games for a team. I have created six teams for this project each of which have played two games each. Finally, the ‘player\_game\_stats’ table is the only table in my schema which has two primary keys. These keys are the ‘playerID’ and ‘gameID’. This is necessary because the objective of this table is to find the stats for a single player from a single game. So, just searching for a player will result in their stats for multiple games and just searching for a game will results in the stats of all six players which have played in that game. The large number of attributes which i have given each entry in the ‘player’ table, ‘game’ table, and ‘player\_game\_stats’ table results in a large number of possibilities while creating queries.

There were some queries in Dr. Chen’s slides which mySQL workbench could not handle and I did not include these but except for those I have used each query discussed in class at least once. I will include how each table looks with a ‘select \* from table’ statement at the end of this report.













