

Project 2 (CSE 5331 Summer 2019)

Report (Project 2, Part 2)

-By

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1. The TEAM_SCORES document will include the following data about each team: Team (that is, the team name), and a collection of the team match (GAME) scores. Each match score in the collection will include: the date of the match, the name of the city and stadium where the match was played, repeat of the team's name, the team score in the match, the name of the opposing team, and the score of the opposing team.

Below are the steps we followed to run the first query

1. Open the Command Prompt.
2. Type cd "(path till the bin folder)".
3. Type mongod. This is used to manage all the MongoDB server tasks.
4. Open another command prompt.
5. Type cd "(path till the bin folder)"
6. CSV files are already imported in MongoDB
7. **Below is the query we ran on command prompt to get the output in JSON format. This query runs on mongo db.**

```
db.teams.aggregate([ { $lookup: { from:"games", localField:"TeamID",
foreignField:"TeamID1", as:"team1" } },
                    { $lookup: { from:"games", localField:"TeamID",
foreignField:"TeamID2", as:"team2" } },
                    { $lookup: { from:"stadiums", localField:"team1.SID",
foreignField:"SID", as:"stadium1" } },
                    { $lookup: { from:"stadiums", localField:"team2.SID",
foreignField:"SID", as:"stadium2" } }

                    ]).pretty()
```

Above query with project key word to extract specific fields:

```
db.teams.aggregate([ { $lookup: { from:"games", localField:"TeamID",
foreignField:"TeamID1", as:"part1" } },
                    { $lookup: { from:"games", localField:"TeamID",
foreignField:"TeamID2", as:"part2" } },
                    { $lookup: { from:"stadiums", localField:"part1.SID",
foreignField:"SID", as:"stadium1" } },
```

```

        { $lookup: { from:"stadiums", localField:"part2.SID",
foreignField:"SID", as:"stadium2" } },
        {
$project:{_id:0,Team:1,TeamID:1,"part1.MatchDate":1,"part1.TeamID1":1,"part1.TeamI
D2":1,"part1.Team1_Score":1,"part1.Team2_Score":1,"part2.MatchDate":1,
"part2.TeamID1":1,"part2.TeamID2":1,"part2.Team1_Score":1,"part2.Team2_Score":1,
"stadium1.SName":1,"stadium1.SCity":1,"stadium2.SName":1,"stadium2.SCity":1}}
    }).pretty()

```

Below is a sample snapshot (also we have attached the file that contains the complete output of first query. **File Name: Project2phase2output1**)

```

{
  "TeamID" : "A1",
  "Team" : "Russia",
  "part1" : [
    {
      "MatchDate" : "2018-06-14",
      "TeamID1" : "A1",
      "TeamID2" : "A2",
      "Team1_Score" : 5,
      "Team2_Score" : 0
    },
    {
      "MatchDate" : "2018-06-19",
      "TeamID1" : "A1",
      "TeamID2" : "A3",
      "Team1_Score" : 3,
      "Team2_Score" : 1
    },
    {
      "MatchDate" : "2018-07-07",
      "TeamID1" : "A1",
      "TeamID2" : "D3",
      "Team1_Score" : 2,
      "Team2_Score" : 2
    }
  ],
  "part2" : [
    {
      "MatchDate" : "2018-06-25",
      "TeamID1" : "A4",
      "TeamID2" : "A1",
      "Team1_Score" : 3,
      "Team2_Score" : 0
    },
    {
      "MatchDate" : "2018-07-01",
      "TeamID1" : "B2",
      "TeamID2" : "A1",
      "Team1_Score" : 1,
      "Team2_Score" : 1
    }
  ],
  "stadium1" : [
    {
      "SName" : "Luzhniki Stadium",
      "SCity" : "Moscow"
    },
    {
      "SName" : "Fisht Stadium",
      "SCity" : "Sochi"
    },
    {
      "SName" : "Saint Petersburg Stadium",
      "SCity" : "Saint Petersburg"
    }
  ]
}

```

2. The PLAYER_DATA document will include the following data about each player: the player name (Pname), the player's team name (Team), the player number (PNo) and position (Position), and a collection of games that the player has started – for each game (match) the player has started, include the MatchDate, City, Stadium Name, and opposing team name. Also include for each player a collection of goals that the player has scored (if any) – for each goal scored, include the GoalType, Time, MatchDate, City, Stadium Name, and opposing team name. **(EXTRA CREDIT)**

Below is the query we ran on command prompt to get the output in JSON format. This query runs on mongo db.

```
db.players.aggregate([{$lookup: { from:"teams", localField:"TeamID", foreignField:"TeamID", as:"playerCountry" }},
{ $unwind:"$playerCountry" }, { $lookup: { from:"starting_lineups", localField:"PlayerID", foreignField:"PlayerID", as:"playerStarted" } },
{ $lookup: { from:"goals1", localField:"playerStarted.PlayerID", foreignField:"PlayerID", as:"playerGoals" } },{ $unwind:"$playerGoals"}]).pretty()
```

Below is a sample snapshot. (also we have attached the file that contains the complete output of first query. **File Name: Project2phase2output2**)

```
Select Command Prompt - mongo
... { $lookup: { from:"goals1", localField:"playerStarted.PlayerID", foreignField:"PlayerID", as:"playerGoals" } },{ $unwind:"$playerGoals"}]).pretty()
{
  "_id" : ObjectId("5d460c48a5b1aa09a2faaf3"),
  "Team" : "Argentina",
  "TeamID" : "D1",
  "PlayerID" : 2,
  "Position" : "DF",
  "FIFA Popular Name" : "MERCADO Gabriel",
  "Birth Date" : "18.03.1987",
  "Shirt Name" : "MERCADO",
  "Club" : "Sevilla FC (ESP)",
  "Height" : 181,
  "Weight" : 81,
  "playerCountry" : {
    "_id" : ObjectId("5d44bd08a5b1aa09a2faad18"),
    "TeamID" : "D1",
    "Team" : "Argentina",
    "Continent" : "South America",
    "League" : "CONMEBOL"
  },
  "playerStarted" : [
    {
      "_id" : ObjectId("5d460c8fa5b1aa09a2fab2b2"),
      "GameID" : "G1",
      "TeamID" : "A1",
      "PlayerID" : 2
    },
    {
      "_id" : ObjectId("5d460c8fa5b1aa09a2fab2c2"),
      "GameID" : "G2",
      "TeamID" : "A3",
      "PlayerID" : 2
    },
    {
      "_id" : ObjectId("5d460c8fa5b1aa09a2fab2d7"),
      "GameID" : "G3",
      "TeamID" : "B3",
      "PlayerID" : 2
    },
    {
      "_id" : ObjectId("5d460c8fa5b1aa09a2fab2e4"),
      "GameID" : "G2",
      "TeamID" : "A4",
      "PlayerID" : 2
    },
    {
      "_id" : ObjectId("5d460c8fa5b1aa09a2fab303"),
      "GameID" : "G5",
      "TeamID" : "C1",
      "PlayerID" : 2
    },
    {
      "_id" : ObjectId("5d460c8fa5b1aa09a2fab32e"),
      "GameID" : "G6",
      "TeamID" : "D2",
```

