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November 24, 2019

DAT200

Business Rules and Description

1. **Description**

Fantasy football is a game based on American football in which players serve as managers of digital football teams consisting of real-world players. A team in a fantasy league competes against one other team each week, with the point totals of each team derived from the performance of the real-world players on each team. There are a number of varying rules for scoring fantasy football, and there are also different rules for the number of players (and positions of players) that are allowed on each team at a given time. For the sake of this project, the rules were made extremely simple: each team consists of one QB, two RBs, two WRs, and defense (special teams omitted) for a total of 6 “players”; scoring on offense is determined by the following:

1. 1 point for 25 passing yards
2. 1 point for 10 rushing yards
3. 1 point for 10 receiving yards
4. 6 points for a touchdown
5. -2 points for an interception

Scoring on defense is determined by the following:

1. 1 point per sack
2. 2 points per safety
3. 6 points per touchdown
4. 2 points per kick/punt block
5. 2 points per interception
6. **Business Rules**

A fantasy football league is created for a purpose: it may be a casual league, a family league, a work league, or many other possibilities. Each league consists of many teams, but each team belongs to a single league. Teams are managed by users: each user can manage many teams in many different leagues, but each team can be managed by only one user. The score of a team for each week is determined by the players active on that team. These players are “under contract” with a team. Each team consists of many contracts, but each contract belongs to only one team. A contract is made with either an offense player or a defense. However, an offensive player or defense does not have to be under contract (in which case they are referred to as “free agents”).

1. **Entity Summary**

* user
  + userID: varchar(45)
    - A unique identifier for each user
  + nameFirst: varchar(45)
    - User’s first name
  + nameLast: varchar(45)
    - User’s last name
* team
  + teamID: varchar(45)
    - A unique identifier for each team
  + userID: varchar(45)
    - ID of owning user
  + leagueID: INT
    - Which league the team belongs to
* league
  + leagueID: INT
    - Unique integer to identify league
  + leagueType: varchar(45)
    - League description (‘family’, ‘work’, etc.)
* contract
  + playerID: varchar(45)
    - Player’s name
  + weekStart: INT
    - Week the contract started
  + weekEnd: INT
    - Week the contract ended
  + teamID: varchar(45)
    - Team the contract is with
  + isActive: INT
    - Whether the player is active or not
* offense
  + playerID: varchar(45)
    - Name of the player
  + gameNumber: INT
    - Week stats are from
  + passYards: INT
    - Number of passing yards
  + rushYards: INT
    - Number of rushing yards
  + recYards: INT
    - Number of receiving yards
  + touchdowns: INT
    - Number of touchdowns
  + interceptions: INT
    - Number of interceptions thrown
  + position: varchar(45)
    - Player’s position (ex. ‘QB’)
* defense
  + playerID: varchar(45)
    - Name of real-life team
  + gameNumber: INT
    - Week stats are from
  + sacks: INT
    - Number of sacks recorded
  + interceptions: INT
    - Number of interceptions made
  + safeties: INT
    - Number of safeties forced
  + touchdowns: INT
    - Number of defensive touchdowns
  + blocks: INT
    - Number of field goal and punt blocks

1. **Desired Queries**
2. List all currently active players in a given league
3. Display all of a user’s created teams
4. Display the total fantasy score of a team’s players for a given week
5. Display the total fantasy score of team’s players over a given time period
6. Simulate a matchup between two teams in a given week
7. Show the most valuable fantasy players on offense and defense for the whole season
8. View free agents at a given position
9. View the number of contracts active in each league
10. View offensive records: most rush yards, most pass yards, most receiving yards, most touchdowns
11. View defensive records