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**Question 3 Data Model**

Table Models below breaking down each table, the columns for it, and the relationships.

For this data model I would use a SQL like Database, specifically, PostgreSQL. PostgresSQL technically isn’t strictly SQL, it allows for Arrays, which is a great feature here that would make our lives easier for storing information like players on a team.

**Games**

id: varchar(50) (Primary Key)

status: enum

reference: varchar(30)

number: int

scheduled: date

attendance: int

utc\_offset: int

entry\_mode: varchar

weather: varchar(75)

clock: varchar(5)

quarter: enum

summaryId: varchar(50) (Foreign Key to Game Summary Table)

statisticsId: varchar(50) (Foreign Key to Statistics Table)

**Game Summaries (Join Table)**

Id: varchar(50) (Primary Key)

seasonId: varchar(50) (Foreign Key to Season Table)

weekId: varchar(50) (Foreign Key to Week Table)

venueId: varchar(50) (Foreign Key to Venue Table)

home\_team\_gameinfo\_id: varchar(50) (Foreign Key to Team Game Info Table)

away\_team\_gameinfo\_id: varchar(50) (Foreign Key to Team Game Info Table)

**Team Game Infos**

Id: varchar(50) (Primary Key)

Team\_id: varchar (Foreign key to Teams Table)

Used\_timeout: int

Remaing\_timeouts: int

Points: int

Game\_id: varchar(50) (Foreign Key back to Game Summary Table)

**Teams**

Id: varchar(50) (Primary Key)

Name: varchar(50)

Market: varchar(50)

Alias: varchar(50)

Owner: varchar(50)

Head\_coach: varchar(50)

Home\_Venue\_Id: varchar(50) (Foreign Key to Venue Table)

Players: Array of varchar(50) where each is a Foreign Key to a player in the Players Table

**Seasons:**

Id: varchar(50) (Primary Key)

Year: int

Type: enum

Name: varchar(50)

Weeks: Array of varchar(50) where each is a Foreign Key to the weeks from that season

**Weeks:**

Id: varchar(50) (Primary Key)

Sequence: enum

Title: varchar(50)

Season\_id: varhar(50) (Foreign Key to Season Table)

**Venues**

Id: varchar(50) (Primary Key)

Name: varchar(50)

City: varchar(50)

State: varchar(20)

Zip: varchar(5)

Address: varchar(50)

Capacity: int

Surface: enum

Roof\_type: enum

**Statistics**

Id: varchar(50) (Primary Key)

Home\_team\_stat\_id: varchar(50) (Foreign Key To Team Game Stat Table)

Away\_team\_stat\_id: varchar(50) (Foreign Key To Team Game State Table)

**Team Game Stats**

Id: varchar(50) (Primary Key)

Team\_id: varchar(50) (Foreign Key to Team table)

Team\_Summary\_id: varchar(50) (Foreign Key to Team Game Summary Table)

Rushing\_game\_team\_stats: varchar(50) (Foreign Key to Rushing Game Team Stats Table)

Receiving\_game\_\_team\_stats: varcahr(50) (Foreign Key to Receiving Game Team Stats Table)

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(Similar Id’s for each possible team stat)

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**Team Game Summaries**

Id: varchar(50) (Primary Key)

Avg\_gain: Float

Safeties: Int

Turnovers: Int

Play\_count: Int

Rush\_plays: Int

Total\_Yards: Int

Fumbles: int

Lost\_fumbles: int

Penalties: 8

Penalty\_yards: 69

Return\_yards: 40

**Rushing Game Team Stats**

Id: varchar(50) (Primary Key)

Team\_id: varchar(50) (Foreign Key to Team Table)

Game\_id: varchar(50) (Foreign Key to Game Table)

Avg\_yards: Float

Attempts: Int

Touchdowns: Int

Tlost: Float

Tlost\_yards: -7

Yards: Float

Longest: Float

Longest\_TD: Float

RedZone\_attemps: int

Players: Array (PostGres allows for Arrays) containing Player\_Game\_Stat Ids which are Foreign Keys to Player Game Stats Table

**Receiving Game Team Stats**

Id: varchar(50) (Primary Key)

Team\_id: varchar(50) (Foreign Key to Team Table)

Game\_id: varchar(50) (Foreign Key to Game Table)

Targets: int

Receptions: int

Avg\_yards: Float

Yards: Float

Touchdowns: Int

Yards\_After\_catch: flaot

Longest: Float

Longest\_TD: Float

RedZone\_targets: int

Air\_Yards: float

Players: Array (PostGres allows for Arrays) containing Player\_Game\_Stat Ids which are Foreign Keys to Player Game Stats Table

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**(Remaining possible stats are very similar and have similar Tables)**

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**Player\_Game\_Stats**

Id: varchar(50) (Primary Key)

Player\_Id: varchar(50) (Foreign Key to Players Table)

Game\_Id: varchar(50) (Foreign Key to Games Table)

Player\_Game\_Rushing\_Stats\_Id: varchar(50) (Foreign Key To Player Rushing Stats Table)

Player\_Game\_Receiving\_Stats\_Id: varchar(50) (Foreign Key to Player Receiving State Table)

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(Similar Ids for all possible player stats)

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**Player Game Rushing Stats**

Id: varchar(50) (Primary Key)

Player\_Id: varchar(50) (Foreign Key to Players Table)

Game\_Id: varchar(50) (Foreign Key to Games Table)

Avg\_yards: float

Attempts: int

Touchdowns: int

Yards: float

Longest: float

Longest\_touchdown: float

Redzone\_attempts: int

Tlost: float

Tlost\_yards: float

**Player Game Receiving Stats**

Id: varchar(50) (Primary Key)

Player\_Id: varchar(50) (Foreign Key to Players Table)

Game\_Id: varchar(50) (Foreign Key to Games Table)

Receptions: int

Targets: int

Yards: float

Yards\_after\_catch: float

Avg\_yards: float

Touchdowns: int

Longest: float

Longest\_touchdown: float

Redzone\_targets: int

Air\_yards: float

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**(Remaining possible Player Stats are very similar and have similar Tables)**

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**Players**

Id: varchar(50) Primary Key

First\_name: varchar(50)

Last\_name: varchar(50)

Jersey: int

Reference: varchar(50)

Position: enum

College: varchar(50)

HomeTown: varchar(50)

Height: varchar(50)

Weight: varchar(50)

YearDrafted: enum

TeamId: varchar(50) (Foreign Key to Teams Table)