Maximize Your Fantasy Football Draft with Simple SQL

By Julian Macias

The 2023 NFL season is just a couple weeks away, which means it’s the greatest time of the year again…DRAFT SEASON! Deciding your draft strategy can often be a daunting experience taking too much of your free time. Time better off allocated towards other avenues of your summer life such as backyard barbeques, frisbee golf, or watching the new Barbie movie. For this reason, I decided this year to create a draft strategy by using SQL and an analytical mindset.

I will be using simple SQL queries to pick out specific players, or tiers of players, who would be great choices to grab in the first four rounds. The next few rounds are tricky, especially when it comes to your home leagues when people tend to pick outside of consensus value. For this reason, I will make a query structured around players that should be available in rounds 5-7. The objective is to pick the best players available in their appropriate round using an analytical approach.

I am in a fantasy football home league that is composed of 10 teams with ½ PPR scoring. The starters consist of 1QB, 2 WR, 2RB, 1 TE, and 1 Flex position. This league structure will be the basis of this report’s strategy. I downloaded a 2022 dataset from thefantasyfootballers.com which contained 17 variables and 650 rows of NFL player stats using ½ PPR. Using PostgreSQL, I hope to answer some simple analysis questions that will help maximize my draft potential, while also helping others skip the frustration of planning their own fantasy football draft. At the end of this report, I will also show you how to start a database and build your own table in pgAdmin, importing data from the internet so you can answer your own fantasy football questions. Let’s begin by answering the question: Who should I pick in the first round?

The first round is simple. You want to pick a running back, a wide receiver, or Travis Kelce. There is a plethora of top talent to be had with guys like Justin Jefferson, Christian McCaffery, and Cooper Kupp, and no matter your draft position in the first round, you are not going to be disappointed with your pick. What I decided to do was make it very easy on myself, I want to know the guys with the highest points per game from the 2022 season. This gave me the idea to develop a query to show me the highest ppg between RB’s, WR’s, and Travis Kelce.

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The first thing I noticed in the output was no Travis Kelce. I was honestly frustrated because I’ve never been able to have Kelce in a lineup, but begrudgingly I decided to move on with the analysis. In 2022 Austin Ekeler averaged 18.78 points per game, while also playing in all 17 games. Having the 4th pick in my home league, this is who I’m targeting. However, the rest of the field here had similar output, and any of them would be a good choice. My only player concern here is the number of games missed for Cooper Kupp, and the compounding fact that the Rams offensive line is poor, paired with Matt Stafford being on the older side. Let’s take him out and see who else pops up in the top 10 with a new query.

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With Cooper Kupp off the board, we can see Saquon Barkley slips into the top 10. This list better represents the first round of players I would be comfortable taking. I would like to note that Bijan Robinson belongs somewhere in the top 10, we simply just do not have past statistics to properly place him. However, we do know that the Falcons were very run heavy during the 2022 season and Arthur Smith will likely keep it the same this year.

For this analysis I’m taking running back Austin Ekeler for my first-round pick. For my second pick I would love a high-end wide receiver. My ideal choice of receiver here would be a target monster with high touchdown upside. I made two queries here, one to see total targets and points, and the other to see a player’s touchdown percentage chance per target.

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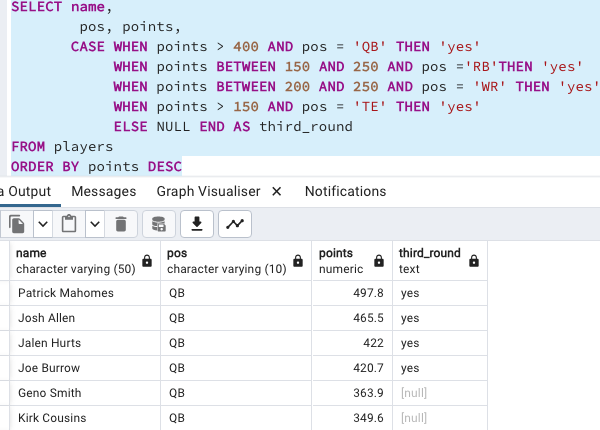
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Justin Jefferson and Tyreek Hill are consensus top 10 picks that I knew I would not get in the second round, but there were several other very good wide receivers to choose from. I narrowed down my list to Davante Adams, Ceedee Lamb, and Stefon Diggs. I will take any of these players if they are still on the board, but if I had the choice I would pick Davante. In 2022 Davante Adams had 180 targets, 14 touchdowns, and 7.8% touchdown rate. Even with a new quarterback in Jimmy Garoppolo, Adams should thrive in an offense that does not feature another elite pass catcher.

In the third round we can go any positional direction. In a lot of single QB drafts the best quarterbacks will still be on the board, and it’s also the same way for tight ends not named Travis. There is still great value at both wide receiver and running back also. I decided to make a conditional query that places positions in point ranges that that would relate to a third-round grade. If the condition was met the output would come out as “yes” in a new column called “third\_round”. If the condition was not met the output would be NULL.



There were a ton a great positional players in the output, but I decided the best value would be to grab a QB out of the elite tier. Between Patrick Mahomes, Josh Allen, and Jalen Hurts, any one of these guys could end up being QB1 at the end of the year. I would also like to point out that Lamar Jackson is set up to have a great year. As I mentioned before, Lamar now has a high upside passing offense with Todd Monken. The Ravens also brought in some new weapons in Zay Flowers and Odell Beckham Jr to add to Mark Andrews and Rashod Bateman. 2023 may be a career year for Lamar in fantasy.

So now our draft board contains one running back, one wide receiver, and our quarterback. The fourth round is a nice spot to look for a good tight end. I queried the top 5 tight ends (NOT KELCE) in terms of highest points, points per game, and targets.

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Noticeably T.J. Hockenson, George Kittle, and Mark Andrews are listed here, however, Hockenson and Andrews are value here. Mark Andrews will benefit from new offensive coordinator Todd Monken’s high pass rate offense and will likely be the number 2 tight end this year. T.J. Hockinson was traded from the Detroit Lions to the Minnesota Vikings November 1st, 2022, and was the second highest scoring tight end from week 9 on. I would love to take either of these two players here and would be set at tight end for the rest of the draft. I would also like to note that Darren Waller is a possibility in the 4th or 5th round. Waller was injured a lot of the 2022 season and was traded to the New York Giants in the offseason. Since he did not come up in my query, I dropped a snapshot of his 2022 stats below.

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We still have a one running back, one wide receiver, and a flex option to fill, but with the way drafts usually shake out in the middle rounds, it is impossible to know which players will be left to pick. I decided to create another point range query to narrow down who might be available to us in the 5-7 rounds.

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The output is a list of 54 running backs and wide receivers to choose from. Unless your league opponents are very new to fantasy football, you won’t be seeing the likes of Chris Olave, DK Metcalf, and Tee Higgins at this point. Still, there is value to be had in these middle rounds. Even with a three-game suspension at the beginning of the year, Alvin Kamara should be the lead rusher for the Saints when he comes back in week 4. Chris Godwin is a target monster and will most likely outperform his ADP. If Travis Etienne falls this far in your draft, you may have wound up with a league winner.

Regardless of who you pick in your middle rounds, just make sure the overall structure of your team is sound. You don’t want to be the person with a lower end quarterback or tight end. You also don’t want to leave your draft nervous about your depth at a certain position. Hedge your bets with running backs and wide receivers, you may have an injury to one of your top players, so make sure you have solid players ready on your bench. Just remember, even if you don’t feel great about your draft now, fantasy football is a war of attrition, and your team most likely will not look like it does now by the end of the season. Use your brain, use some analytics, and most importantly use the waiver wire. With the draft strategy out of the way let’s look at how to start a database and make a table in pgAdmin using SQL.

**Building a Database and Table in pgAdmin**

After opening pgAdmin and logging in, the first thing you want to do is right click on databases on the left side of your screen and create a new database**.**

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Name your table and press the save button.

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Right click on the new database you created and select Query tool.

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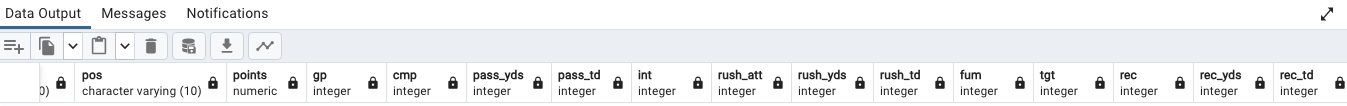
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Now it’s time to use SQL to build your table. If you are going to import your data from the internet, it is important to study the structure of your data. As I stated before, I used a dataset from thefantasyfootballers.com. I imported this dataset into excel to do a little cleaning and organizing. I made all the variable names lowercase, checked to see if there were any missing values, and searched for unwanted duplicates to minimize the work in SQL. Once the cleaning process was finished, I saved the data as a CSV to help with importing. When building your table in pgAdmin you want to make sure the column names you code are the same as the data you are importing. Below is the code for the table I made. A screenshot of a computer code

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Start with the CREATE TABLE operator and place the first column name of your data immediately after, followed by the type of data and any constraints for your column after. In my case, the first column is player\_id followed by the data type SERIAL (sequential integer), the UNIQUE constraint (all different values), and lastly the NOT NULL constraint (no Null values). This column serves as the primary key for the table. Do the same for the rest of the columns that will be in your table while using data types and constraints specific for the data you chose. You have now created a table, but you still need data to work with.

**NOTE: The data types in the query above should have been NUMERIC or any data type better for aggregation**.



**Importing Your Data**

Once you decide what CSV file you wish to work with, right click on the table you just made and click on Import/Export Data**.**

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Type in where to find your file in the directory or click the folder icon on the right-hand side to search for it yourself.

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Click on options, then make sure the header button is on. You also want to make sure the delimitator is correct.

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Finally, click on columns and double check that your column names are the same as the ones you created your table with.

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Click ok and if everything is correct, your data should automatically consolidate into the table you made. Do a SELECT \* from your table and make sure the data is correct. It should look something like this.

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