NFL Defensive statistics

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Research Question

In the course this year we have learned a lot about how to organize data, especially in the language R. This technique has found its way into the professional sports world throughout the 21st century. Logging statistics about how teams and individual players perform, help these organizations make business decisions. That being said, ny partner and I set out to use these statistics to analyze and determine the best performing defense in the league thus far in the 2021 NFL season.
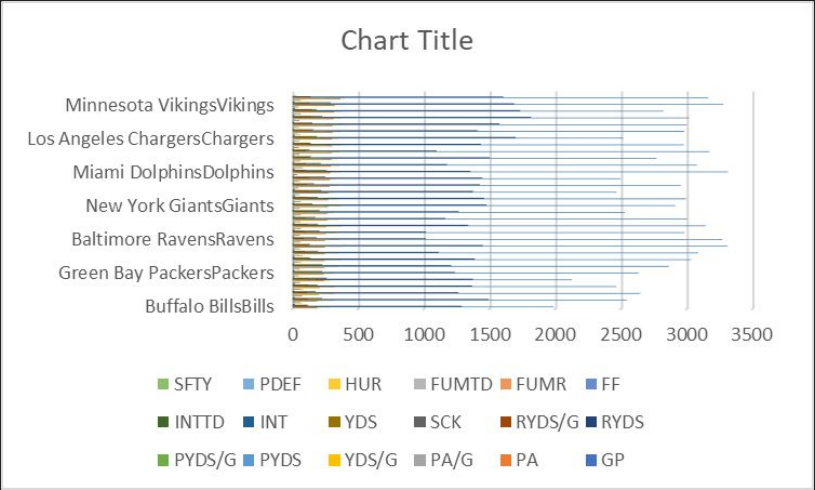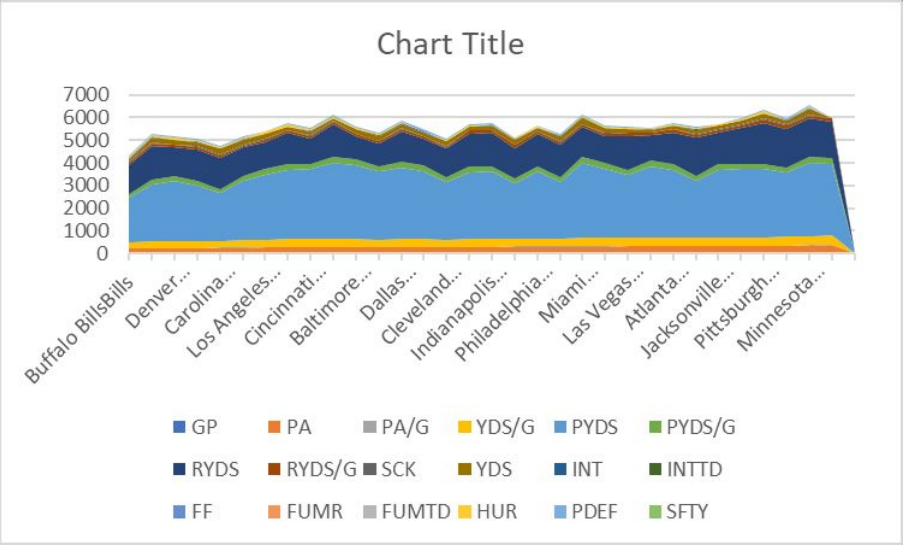
NFL

The National football league is an organization that profits off of the national broadcast of american football team competitions. They relate to data science because they use it so much for their day to day processes. One NFL gm was even quoted talking about how even the way the schedules for every team are constructed through data science, to get the most exciting match-ups from week to week. That is why you get those late season dramatic matchups.

Defenses

There are many things that make a defense great that are recorded in the stat book. A big measure of a defense is how effective they are at getting to the quarterback. We will definitely look at the sacks per game, but to get a deeper look at things, we will look at QB pressure percentage. You do not always have to sack the QB to affect the play. Effective defenses are always in the quarterback's face, so everytime he drops back to pass he should be pressured. The QB pressure percentage tells us how often a defense does that. Great defenses also get the ball back for their offense. This stat is shown by the turnovers statistic in the record book. The more interceptions (INT), forced fumbles (FF), and fumble recoveries (FR) a defense has, the more successful they should be. We will look at all these factors when determining who the best performing defense has been up to this point of the season.

Statistics

Top Performers

Out of all the data we collected and logged, there were two defenses that statistically stood out. These defenses belong to the New England Patriots, and the Los Angeles Rams. They both allow the two lowest points per game to other competitors. The Dallas Cowboys have the most turnovers, but we had to disqualify them from being this conversation due to their lack of significant numbers in other categories. This was the same for a lot of teams, that is why the two teams we have chose are the ones who had the best numbers across the board, which was greatly apparent in the points allowed per game category of our data sheet.

Comparing

Patriots:

- 14.5 points allowed per game
- 310 yards per game
- 195.5 passing yards allowed per game
- 32 sacks
- 19 interceptions
- 11 forced fumbles
- 7 fumble recoveries
- 59 hurries
- 45 passes deflected

Rams:

- 20 points allowed per game
- 338.8 yards per game
- 238.3 passing yards allowed per game
- 32 sacks
- 12 interceptions
- 11 forced fumbles
- 5 fumble recoveries
- 63 hurries
- 72 passes deflected

Conclusion

In conclusion, we used data science to analyze our data to come with the result that the New England Patriots have the highest performing defense in the NFL to this point of the NFL season. We used R to get to certain specifics of the data sets. Mean(YdsAllowed) will tell us the mean of the number of yards allowed so that we can find what numbers are outstanding, among other commands like that. Using R organizes and sorts our data so it is easy to analyze.

References

https://www.foxsports.com/nfl/team-stats?season=2021&category=defense