

FOOTBALL CONCUSSIONS

For this challenge we will be using the fast food dataset (Concussion.csv) located at:

<https://www.kaggle.com/datasets/rishidamarla/concussions-in-the-nfl-20122014>

The variables in the dataset are as follows:

- **ID:** The name of the player with injury with information on game.
- **Player:** The name of the player.
- **Team:** The team the player plays for.
- **Game:** The game where the injury occurred.
- **Date:** The date the event happened (you will need to convert the data type to “date” to run time series analysis.)
- **Opposing Team:** The team the player was opposing./
- **Position:** The position the player plays.
- **Pre-Season Injury:** Does the player have a pre-season injury?
- **Winning Team:** Did the team win the game?
- **Week of injury:** Week into the season that the injury occurred.
- **Season:** The season the injury occurred.
- **Weeks injured:** How many weeks the player was injured for.
- **Games missed:** The number of games the player missed due to the injury.
- **Unknown injury:** Does the player know if they are injured?
- **Reported Injury:** What the injury was reported as.
- **Total Snaps:** Total number of snaps.
- **Play time after injury (downs):** Number of downs the player played after injury.
- **Play time before injury (downs):** Number of downs the player played before injury.

Complete the following Questions regarding the dataset:

1. Which player(s) have the most reported injuries in a season?
2. Is the week of injury associated with the total number of injuries? Use a scatter plot to support your answer.
3. Visualize and describe in full the distribution for all numeric variables in the dataset.
4. Visualize and describe the distribution for all (appropriate) categorical variables in the dataset.
5. Which position has the highest number of injuries
6. Which team has the highest number of injuries?
7. find the average number of injuries for each team over the three seasons.

8. For the next several questions you will explore factors that are associated with pre-season injuries for players. Make sure every question has a plot to support the answer:
- Are positions associated with pre-season injuries?
 - Are teams associated with pre-season injuries?
 - Are Seasons associated with pre-season injuries?
 - Are Winning teams more likely to have pre-season injuries?
9. Does the average playtime change after an injury?