Main Goal: Create a PDF in Quarto that can be presented in class and is contained in a Group Repository that tells a narrative about the data set.

Sub-Goal 1: Create Repo

- Needs:
    1. Github Desktop
    2. Stat184-Fall2025 Organization
- Steps:
    1. Create Repository following guidelines in Checkpoint #3

Sub-Goal 2: Create a Quarto document

- Needs:
    1. Repo in which it will be created
- Steps:
    1. Create appropriate YAML Header

Sub-Goal 3: Preparing Data

- Needs:
    - Nouns:
        1. Tidyverse
        2. Ggplot2
        3. Kablextra
        4. Janitor
        5. Raw Data
    - Verbs
        1. Filter
        2. Select
- Steps:
    1. Load packages
    2. Import data
    3. filter for selected teams (AFC)

Sub-Goal 4: make multiple data visualizations to provide evidence for our narrative of the data

- figure 1: Barcharts of team wins
    - Create code chunk
    - Add label, caption, and alt text
    - Set aes.
        - X-axis as team (ordered by total of wins descending)
        - y-axis as wins

        - Fill color by division
    - Geom_col
    - Facet wrap to separate by division and set scale to free to remove the gaps
    - Create x and y axis labels
- figure 2: Scatter plot of team efficiency
    - Add file containing all team logos
    - Create Code Chunk
    - Add label, caption, and alt text
    - Wrangle data
        - Select necessary variables
        - Group by team and conference
        - Find the average of all chosen variables
        - Add in logos to the data set
    - Create efficiency scatter plot
        - Set aesthetic (y = points scored, x = points allowed)
        - Set images to points
        - Add efficiency line
        - Separate the NFC and AFC teams by plots
    - Add narrative text
    - Set position
- figure 3: Scatter plot of Offensive and Defensive win associations
    - Create code chunk
    - Add, label, caption, and alt text
    - Set aes.
        - X-axis
            - for first subplot = total pass yards
            - For second subplot = total rush yards
            - For third subplot = total allowed pass yards
            - For fourth subplot = total allowed rush yards
        - Y-axis = wins
        - Color = Conference
    - Geom_point
    - Add labels and Title for each plot
    - Set colors
    - Use ggarrange to combine the 4 plots into a grid
- Table 1: Team Win Statistics
    - Create code chunk
    - Set label and caption
    - Use summarize then

    - Define count as total (seasons)
    - Define min and max as minimum and maximum wins in a season
    - Define Quartile 1, median, and quartile 3
    - Define Simple arithmetic mean and standard deviation
    - Mutate across to round to two decimal places
    - Rename the columns of the table
    - Use kable() and output table
- Table 2 :Average Win Associations
    - Create code chunk
    - Set label and caption
    - Summarize to create the arithmetic mean for wins, pass yards, rush yards, allowed pass yards, and allowed rush yards
    - Mutate across to round to two decimal places
    - Rename the columns of the table
    - Use kable() to create the final table
- Table 3: AFC team efficiency table
    - Create code chunk
    - Add label, caption, and alt text
    - Wrangle data
        - Pick necessary columns
        - Add images column
        - Filter by AFC teams
        - Get team average for point differential, wins and losses
        - Sort by wins descending
    - Make table
        - Select variables
        - Set format
        - Add images
    - Add narrative text
    - Add position
- Table 4: NFC team efficiency table
    - Create code chunk
    - Add label, caption, and alt text
    - Wrangle data
        - Pick necessary columns
        - Add images column
        - Filter by NFC teams
        - Get team average for point differential, wins and losses
        - Sort by wins descending
    - Make table

        - Select variables
        - Set format
        - Add images
    - Add narrative text
    - Add position