**Methods and Classes**

Methods we need are as follows:

extract\_data()

Method responsible for connecting to a database and executing SQL queries to fetch player information.

display\_player\_information()

Method for displaying player information on the website based on the results obtained from the extract\_data() method.

run\_tests()

This method would run the test methods and verify that the displayed information matches the expected results.

**Classes**

NFLPlayer

Class to model individual NFL players, with attributes like Name, Position, and other relevant player information.

NFLPlayerDatabase

Class to interact with a database, executing SQL queries to retrieve player data, similar to what the extract\_data() method would do.

**The following are the pytest methods that we should use:**

test\_first()

This method is for displaying the first player's name from the NFL database.

Gets player’s name using the SQL query: "SELECT Name FROM NFL."

Expected "Josh Allen."

test\_second()

Method to display a list of players and verify the index of "Kyle Allen."

To get a list of player names using the SQL query: "SELECT Name FROM NFL."

Checks if "Kyle Allen" is at index 1 in the result list.

test\_many()

Method to display list of players and verify the index of "Josh Allen" and "Shane Buechele."

Gets a list of player names using the SQL query: "SELECT Name FROM NFL."

Checks if "Josh Allen" is at index 0 and "Shane Buechele" is at index 2 in the result list.

test\_position()

Method to display a player's position based on the SQL query: "SELECT Name, Position FROM NFL."

Gets the player's name and position.

Checks if the position is "QB" and asserts True or False.

test\_QB()

Method to display a list of players with the position "QB."

Gets player names using the SQL query: "SELECT Name FROM NFL WHERE position ='QB'."

Checks if the list of players with the "QB" position matches the expected list: ["Josh Allen", "Kyle Allen", "Shane Buechele"].

test\_defense()

This method corresponds to displaying a list of players and verifying the player at index 35.

It retrieves a list of player names using the SQL query: "SELECT Name FROM NFL."

It checks if the player at index 35 is "Kameron Cline."

test\_specialTeams()

This method is to displaying a list of players and verifying the player at index 70.

Gets list of player names using the SQL query: "SELECT Name FROM NFL."

Checks if the player at index 70 is "Tyler Bass."

Web Application Implementation

The web application consists of an HTML, CSS, and JavaScript frontend:

HTML defines the structure of the web page, including elements for displaying player information.

The CSS (styles.css) provides styling for the web page.

The JavaScript (script.js) handles the behavior of the web page, displaying player information.