Assignment 5

Objectives

- Practice implementing linked list data structure
- Practice implementing to an interface
- Practice reading and understanding specifications
- Exposure to more complete testing

Introduction

This assignment will build on your knowledge of the `Player` class the list interface. Your assignment is to implement the interface defined in `PlayerListInterface.java` as a doubly-linked list in `PlayerLinkedList.java` This will allow you to store player objects in a linked list data structure.

While we will add some additional tests specific to the linked data structure, the classes dependent on the `PlayerListInterface` (`Team`) do not need major changes to change from an array-based list to a linked list data structure.

We will be adding more classes to support the introduction of a linked list data structure. A UML overview is provided on the following page.

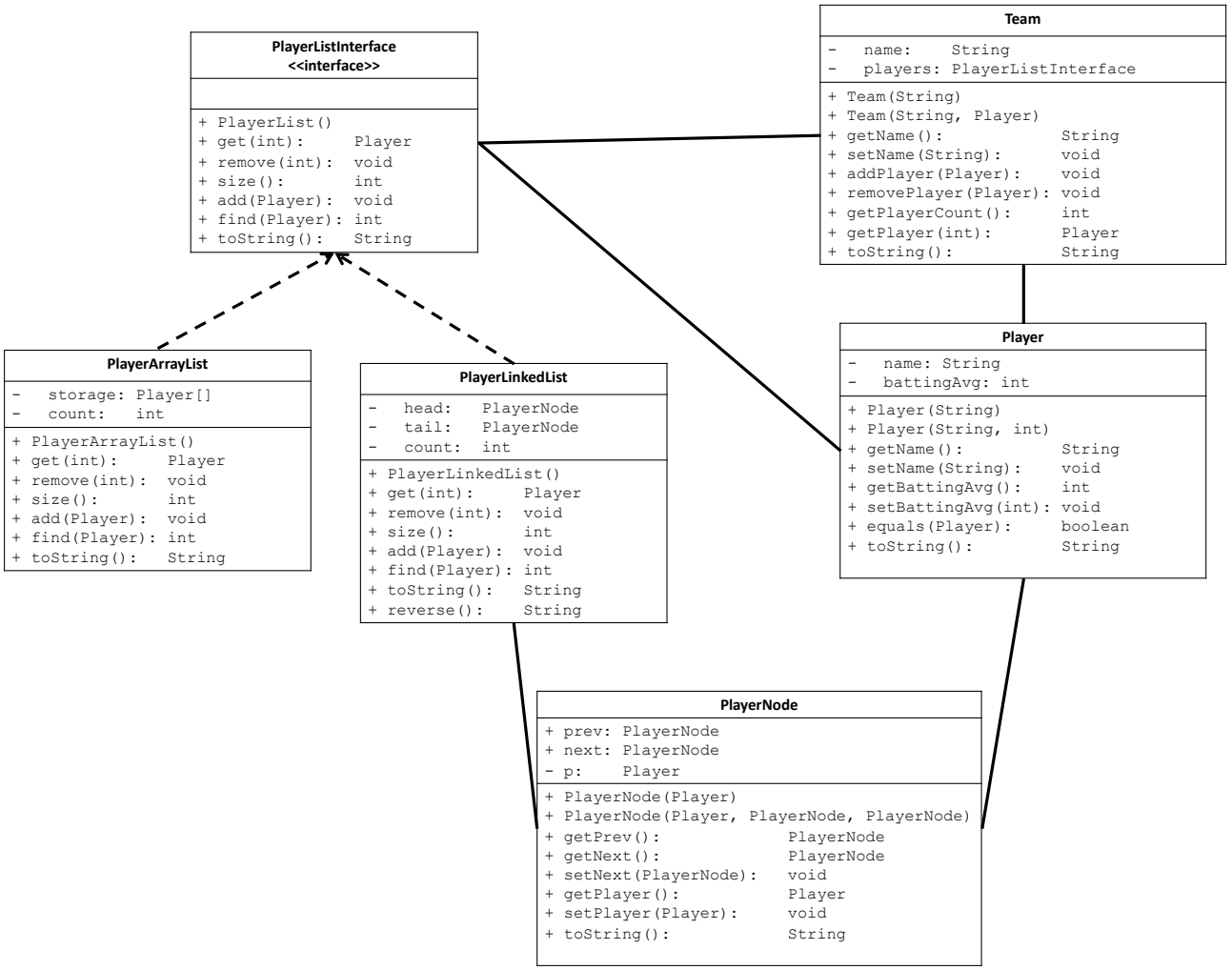
Submission and Grading

Submit your `PlayerLinkedList.java` using conneX. **Please be sure you submit your assignment, not just save a draft**. **ALL late** and **incorrect** submissions will be given a **ZERO** grade.

If you submit files that do not compile, or that do not use the correct method names you will receive a **zero grade** for the assignment. It is your responsibility to ensure you follow the specification and submit the correct files.

Your code must **not** be written to specifically pass the test cases in the testers, instead, it must work on all valid inputs. We will change the input values, add extra tests and we will inspect your code for hard-coded solutions.

A reminder that it is OK to talk about your assignment with your classmates, and you are encouraged to design solutions together, but each student must implement their own solution. We will use plagiarism detection software on your assignment submissions.



Getting Started

1) Download `A5Tester.java Player.java PlayerListInterface.java PlayerList.java PlayerLinkedList.java Team.java`

2) Try to compile `A5Tester.java` You will see it does not compile. You should see an error that looks something like this:

`PlayerLinkedList is not abstract and does not override abstract method find(Player) in PlayerListInterface`

3) Introduce stubs for your constructor and for each of the methods `PlayerLinkedList` must implement.
DO NOT move on until you have the tester compiling with no errors!

4) Implement each method in `PlayerLinkedList.java` by repeating the following:

a) Implement ***one*** of the methods in `PlayerLinkedList.java`

b) Compile and run the test program `A5Tester.java`

c) Add more tests to ensure your solution is correct!