

Lab 4

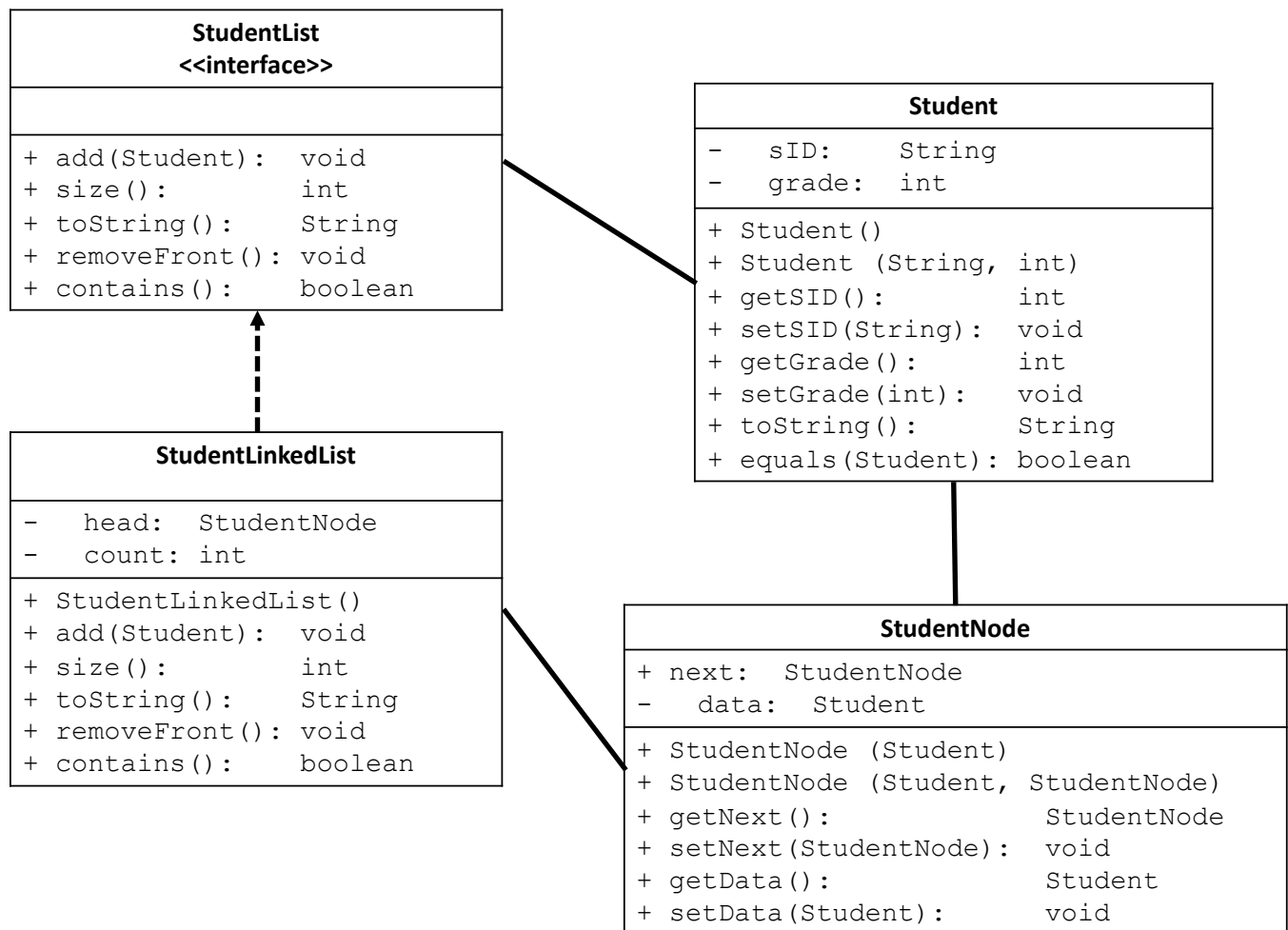
Objectives

- Practice with interfaces and abstract data types
- Introduction to linked data structures

Exercise - Interfaces

In this lab you will be implementing and testing the `StudentNode` and `StudentLinkedList` classes depicted in the following UML diagram.

Recall: the dashed arrow implies that one class implements the interface pointed to, the solid line means one class uses the other class.



1. Download `StudentList.java`, `Lab4Tester.java` and `Student.java` to your Lab4 folder.
2. Implement the `StudentNode` class in a new file called `StudentNode.java` in your Lab4 folder.
 - a. Write and test each constructor and method one at a time.
 - b. To test, compile and run `Lab4Tester.java`

CHECK POINT – get your lab TA to check off after you have completed this. They will want to see you compile and run `Lab4Tester.java` and see your implementation.

3. Implement the `StudentLinkedList` class in a new file called `StudentLinkedList.java` in your Lab4 folder
 - a. This class MUST implement the `StudentList` interface:
`public class StudentLinkedList implements StudentList {...`
 - b. Write and test each constructor and method one at a time.
You will need to write tests in the `testList` method in `Lab4Tester.java`
If you are unsure how to test, look at the `testNode` method for help and the `testShapeList` method in `Lab3Tester.java` from last week.

CHECK POINT – get your lab TA to check off after you have implemented and tested the constructor, add and size methods. They will want to see you compile and run `Lab4Tester.java` and they will want to see your both the method implementations and your tests.

CHECK POINT – get your lab TA to check off after you have implemented and tested the remaining methods. They will want to see you compile and run `Lab4Tester.java` and they will want to see your tests.

Finished early – start your Assignment!