

CS0045 ALGORITHMS AND INFO STRUCTURES APPLICATIONS

Assignment 10

Preparation (the whole project should be done in Netbeans or other IDE)

1. In Netbeans, create a new project **Assign10** with GroupID **CS0045Fall2021** so that you get a package called **cs0045fall2021.assign10** (see previous handouts for details)
2. Download **ListInterface.java** and **AList.java** from Canvas and put them into the **cs0045fall2021\assign10** folder within the **src** folder.
3. File-Open the two files and add the line **package cs0045fall2021.assign10;** to the top of each of them. The two files should now be part of the Source Package

Task

1. Create a class, **Student**, to represent a student. There will be three attributes – name, age, and gpa. You must include 2 constructors, 3 get methods, 3 set methods, and a **toString** method.
2. Create a test file, **TestStudent** that will do the following (use methods from **AList**)
 - Create an **AList<Student>** of size 25.
 - Add the following 5 students to the list in this order:
 - Joe Smith, age 18, GPA = 3.45
 - Jen Brown, age 19, GPA = 2.95
 - Jane Green, age 20, GPA = 3.23
 - Jerry Black, age 19, GPA = 2.06
 - Jo Blue, age 19, GPA = 3.88
 - Delete the student at position 3 in the list
 - Add a new student, Kate Poole, age 20, gpa = 4.0 at position 2 in the list
 - Replace the first item on the list with the student John Black, age 22, gpa = 3.32
 - Swap the items at position 2 and 5
 - Change the age of the 4th student to 21.
 - Change the name of the last student to Sandy Last
 - Print the students in the list one student per line
3. Take a screenshot of your output.

Turning in the Assignment

Zip up the whole project from the base folder and submit the zipped file and the screenshot. Due by the start of the next class.