Lab 9

Read the below instructions. Make reasonable assumptions and write implementation. On a separate page write down your implementation design choice.

1.	**StudentCollection** **Time**: 1 hour and 30 minutes **Problem Description** You need to create a class named StudentEnrollment that contains a list of enrolled students along with the methods to manipulate the list. The class has the following attributes and methods: 1. List of students 2. Remove, and get any student by using the student id, getAll which returns all students from the list. 3. add, remove, and get any student by using the student object. 4. Print method which uses an iterator to iterate the list and print it. Each Student object has the following properties and activities: 1. ID which is a string. Add validation logic in the setId method like the length should be 9. Otherwise, throw an InvalidStudentIDException with a message. 2. Name which is a string. 3. Program which is an Enum. Values could be CSE, SWE, or IT. 4. CGPA which is a float value. 5. Study and play methods. There is a ResultPublication class that has a method named publish which prints the sorted list of students. Sorting could be based on: ● Only student id ● CGPA ● Name ● Student id and CGPA. First, compare CGPA then student id. Another class Exporter has the responsibility of exporting the list in CSV format or XML format. Keep in mind new type of exporting operation could be added. **Test cases** ● Write test cases for StudentEnrollment class. At least one test case for each of the methods. ● Write test cases for ResultPublication class. ● Write test cases for Exporter class. Hint: implement the comparator interface for sorting	20