Lab 7 COMP1161 – Introduction to Object Oriented Programming

INHERITANCE

1. Create an interface called *Person* with abstract setter and getter methods for lastName and firstName.

2. Create a class called *Student* that stores values on the last name, first name, ID number and GPA of a student.
    a) Define the constructor for the class. GPA should be initialized to zero.
    b) Define all setter and getter methods for instance variables, except setter for GPA.
    c) Define a toString method.
    d) Define a method called *calculateGPA.* Allow the user to enter the average grade of the student.

    $$GPA = (average\ grade/100) * 4$$

3. Create a sub-class of Student called *UniversityStudent*. This class stores data on the total number of credits and total number of courses.
    a) Define the constructor for the class. Remember to call the constructor of the super class.
    b) Define all getter and setter methods.
    c) Define a toString method.
    d) Override the *calculateGPA* method, as the GPA is now total credits divided by the number of courses.

4. Create a driver class to test your classes:
    a) Create an object of the Student class
    b) Create and object of the UniversityStudent class.
    c) Display each object.
    d) Calculate the GPA for each object.
    e) Display each object.