

COMP 132: Advanced Programming

Spring 2016, Homework 1

1 Write a Java class named Student in a package named university.

1.1 Student should have the following private fields

- 1.1.1 String name: A name of student consisting of capital letters (e.g., "CEMAL" or "MERVE")
- 1.1.2 String ID: A five-digit identification number of student between 04001 and 04999
- 1.1.3 String semester: A String field representing a semester in which the student joined the university. It has one of the following values: "Fall", "Spring" or "Summer"
- 1.1.4 int year: The year in which the student joined the university.
- 1.1.5 static int currentYear: The year we are in
- 1.1.6 static int currentSemester: The semester we are in (0-for Fall, 1-for Spring and 2-for Summer)

1.2 For each of the fields above, write getters (get methods).

1.3 For the semester, year, currentYear and currentSemester fields, write set methods as well.

1.4 Make sure all fields are validated before they are set. For instance, if a String other than "Fall", "Spring" or "Summer" is given as an argument to the set method for semester, the set method should set the field to a default value.

1.5 Write constructors for Student.

- 1.5.1 A two argument constructor Student(String name, String ID).
This constructor sets the name and ID of the current student.
- 1.5.2 A four argument constructor
Student(String name, String ID, String semester, int year)

1.6 Write a toString() method for Student.

1.7 Write a TestStudent class with a main() method that creates Student objects and makes use of all of the methods referred to above.

2 Write a Java class named Department in a package called university.faculty

2.1 Department should have the following private fields

2.1.1 String deptName: A string containing the name of the department

2.1.2 String facultyName: A string containing the name of the faculty Department belongs to

2.1.3 ArrayList students: An ArrayList of Student objects containing students' information affiliated to this department.

2.2 Write a method appendStudent(Student st) which appends a new student to the ArrayList students

2.3 Write a toString() method for Department

2.4 Write a TestDepartment class with a main() method that creates Department and Student objects and uses all of their methods.