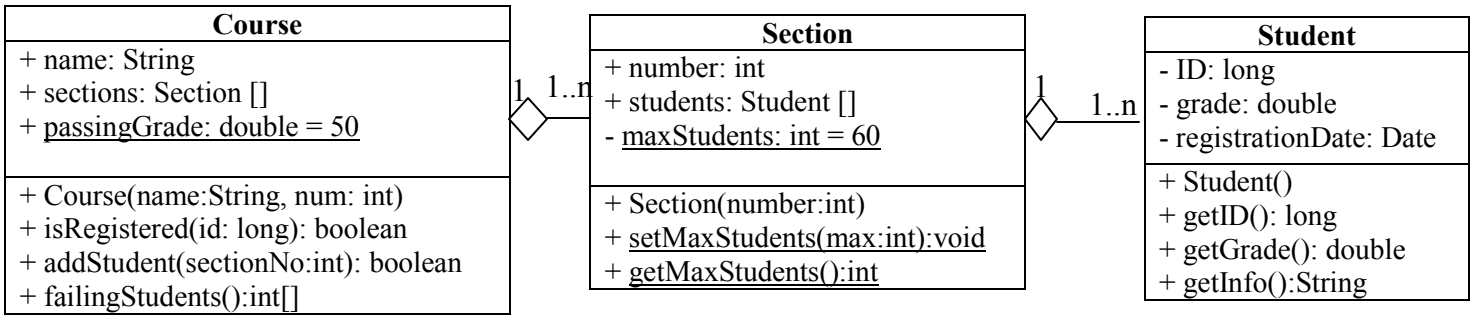
Faculty of Engineering and Technology
Computer Engineering Department

Object-Oriented Problem Solving Lab
Fall 2014 - Midterm Exam
Eng. Asma Abdel Karim

Name: …….……. **University ID: ……..……**
Computer Number: ……

- **Write a Java program that implements the classes shown in the following UML class diagram:**



1. **For the Student class:**
   - The no-arg constructor should ask the user to enter the student ID and grade, and initialize the ID and grade with entered values. The registrationDate should be initialized with the date and time of the object initiation.
   - The getInfo method should return a String that includes: the student ID, the student grade, and the date and time he was registered. (e.g. ID: 0035657, Grade: 95, Date: …)
2. **For the Section class:**
   - The students array should be initialized with zero elements.
   - The constructor should initialize the section number with number passed as parameter.
3. **For the Course class:**
   - The constructor takes two parameters: the first is the name to initialize the course name, and the second is the number of sections in the sections array. Initialize sections numbers sequentially, for example for 3 sections, the sections numbers should be 1, 2, and 3.
   - The method isRegisered takes as parameter an id, and returns true if a student with the passed id is registered in any of the course sections, and returns false otherwise.
   - The method addStudent checks first that the number of students in the section is less than the maxStudents, if yes it adds a new student to the section with the passed number and returns true. Otherwise it returns false.
   - The method failingStudents returns an array of integers with number of elements that equals the number of the course sections. Each element in the array represents the number of failing students in the corresponding section (element of the array sections).

- **In your main method: 1)Set the max number of students of the section class to 70. 2)Declare a course object called "OOPS" with three sections, and add 2 students to each section.**

GOOD LUCK ☺