College of the North Atlantic
CP3566 – Applied Java Programming
Assignment 4

Due Date: Friday, February 18th

Spring Framework

Following a similar setup to our in-class example (Accessing Data with MariaDB), create an IntelliJ Spring Initializr project. Under dependencies, ensure you select the following:

- Spring Web,
- Spring Data JPA
- MariaDB (or MySQL) Driver
- Remember, if you do miss one, or require others, you can certainly add them to your pom.xml file a little later.

Create a database (no need to create any structure – i.e. tables – as our program will be expected to do that for us) called: **educationsystem**

We are going to create a RESTful web service that will provide an education system to potential Colleges and Universities. For this assignment, we are not concerned about all of the functionality that it will eventually include, we simply want to start the project with some basics of student and course information.

Objectives (note that these objectives are not necessarily in the order that you may complete development):

1. Create a class called Student.java which will act as an entity class. The class should have the following attributes:
    - studentId (which will act as the table primary key, and should be auto-incremented)
    - firstName
    - lastName
    - email
    - address
    - city
    - postal
    - phone

    The class should have get/set methods for each attribute.

2. Create a class called Course.java which will act as an entity class. The class should have the following attributes:
    - courseId (which will act as the table primary key, and should be auto-incremented)
    - courseName

- courseNumber
- capacity

The class should have get/set methods for each attribute.

3. Create an interface for each of the above classes, that Spring will use to auto-implement them into a Bean.

4. Create a controller for each object (i.e. Student and Course) that allows you to:
   - Add – a particular student or course
   - List – all students or courses
   - View – one student or course at a time based on id
   - The path for student functionality, from a web access perspective, should be “student”
   - The path for course functionality, from a web access perspective, should be “course”

5. Obviously, you will also require a main class to launch your Spring Boot application.

6. Make any adjustments or default overrides in your application.properties file.

7. Assume for this assignment that all testing will be done through Postman or IntelliJ’s internal generated HTTP requests.

When complete, submit to the Assignment 4 Dropbox.