Course Scheduler Final Project Part 1

You have been asked to develop a Course Scheduling application for a College. The application will enable two types of Users to perform their necessary functions to schedule courses by semester. The Admin User will perform multiple functions to set up the database so that Students my schedule courses. The functions each User will be able to perform will be described below.

This application should have a very nice GUI interface and will be a database driven application. The database used will be Derby. This application must use good Object-Oriented Design and Programming. The database must use good Object-Oriented Design and Programming. There is a very close correlation between Object-Oriented Design and Database Design. Your application design should include at least four classes besides the main GUI class. Your database accesses should be in the classes that correlate with the database tables.

This assignment is the first half of the final project and will be submitted as Final Project Part 1.

This phase of the project will implement the following Admin functions:

Add Semester

A semester is added to the database. The semester is identified by one name.

Add Course

A new course is added to the database. The course is identified by the semester it is to be added to, the code for the course, the description of the course and the maximum number of students the course will contain that semester.

Add Student

A student is added to the database. The student is identified by a studentID, the student's first name, and the student's last name.

This phase of the project will implement the following Student functions:

Schedule Course

The student will be scheduled in the class for the specified semester, if there are seats available. If there are no seats available, the student will be put a wait list for that Course. The waiting list must be maintained in the order the students tried to schedule the course.

Display Schedule

The Display Schedule function will display the current schedule for a specified student for the current semester.

Display Courses

The Display Courses function will display a complete list of courses for the current semester.

Testing scenario:

A testing scenario will be provided to assist you in testing this application. It will be called Final Project Part 1 Test Script in Canvas.

Database considerations:

Your database will be created but all of the tables should be empty when your project is submitted.

Initial NetBeans Project:

An initial project is provided for you to be used as the basis of your final project. It is provided as a .zip file in Week 11 in Canvas under the name CourseSchedulerNameID.zip. It MUST be used for your Final Project. You will change the project name after you download it. There is a video in Week 11 about how to do this.

GUI Guidelines:

The user should be required to enter only unknown data. Drop down lists of known data such as Student names, Course Codes, or Semesters should be displayed for the user to select. Combo Boxes should be used for the drop-down lists on the form. When information is requested to be displayed, e.g., for a Display command, all of the requested information must be displayed. When a command is performed, the results of that command should be displayed to the user on the same display without the user needing to use a Display function to see what was done.

Submission Guidelines:

Don't forget to submit your zipped PROJECT folder and your zipped DATABASE folder. Zip the ENTIRE database folder and the ENTIRE project folder and submit the two zipped files in the assignment under one submission.

Note:
Your project must be renamed with the name 'CourseSchedulerNameID', where Name is your name and ID is your psu account id, e.g. xxx1234. The database must

be created with the name 'CourseSchedulerDBNameID', and a username and password of java and java. All tables should be empty.

Grading Criteria:

In this project I will be looking for good OO design practices and this includes:

- **Use of getter and setter methods for class variables**
- **Good naming of your classes, methods and variables**
- **Correct use of static and non-static methods**
- **The way you split this project into classes.**
- **All of your updates to the database must be done using SQL statements, do not use ResultSetTableModels to update the database.**
- **If a SQL statement to update the database needs to contain a variable, then you must use PreparedStatements, do not use concatenation of strings to create the SQL statement.**

The Grading Rubric for Final Project Part 1 is posted in Canvas.

Note: Make sure you look at all the videos about this assignment and the Course Scheduler Design Layout in Canvas before starting this assignment.