

PRJ301 - Workshop 2 – MVC Architecture

Deadline: follow the info shown on Classroom

Requirements:

We are building the first phase of a Java web application that provides some basic features for a student management system. You are given a base source code that contains some erroneous functionalities.

1. Create a database named “prj301_daigakusei”. [1 point]
 - a. In “prj301_daigakusei” database, create a table named “major” that has a structure as below:

major_id	int, PK
name	nvarchar(255) not null

- b. Insert into the “major” table these records:

major_id	name
1	Software Engineer
2	Graphic Design

- c. Create another table named “student” that has a structure as below:

roll_id	nvarchar(255), PK
first_name	nvarchar(255) not null
last_name	nvarchar(255) not null
gender	int not null
password	nvarchar(255) not null
math	float(24) not null
english	float(24) not null
major_id	int not null, FK ref. to major.major_id

- d. Insert into the “student” table a row with these values:

roll_id	first_name	last_name	gender	password	math	english	major_id
CE123456	John	Doe	1	e10adc3949ba59abbe56e057f20f883e	5	3.7	1
CE456789	Sophia	Doe	0	e10adc3949ba59abbe56e057f20f883e	8.8	7.9	2

2. Fix the StudentDAO to handle login functionality. [1 point]
3. Fix the LoginController to handle login functionality. [1 point]

4. When the user enters “CE123456” as roll number and “123456” as password and clicks on the “**Login**” button, they will be redirected to “/profile”. This must make use of “session” in order to achieve this. Fix the **StudentController** to display the page correctly. [0.5 points]

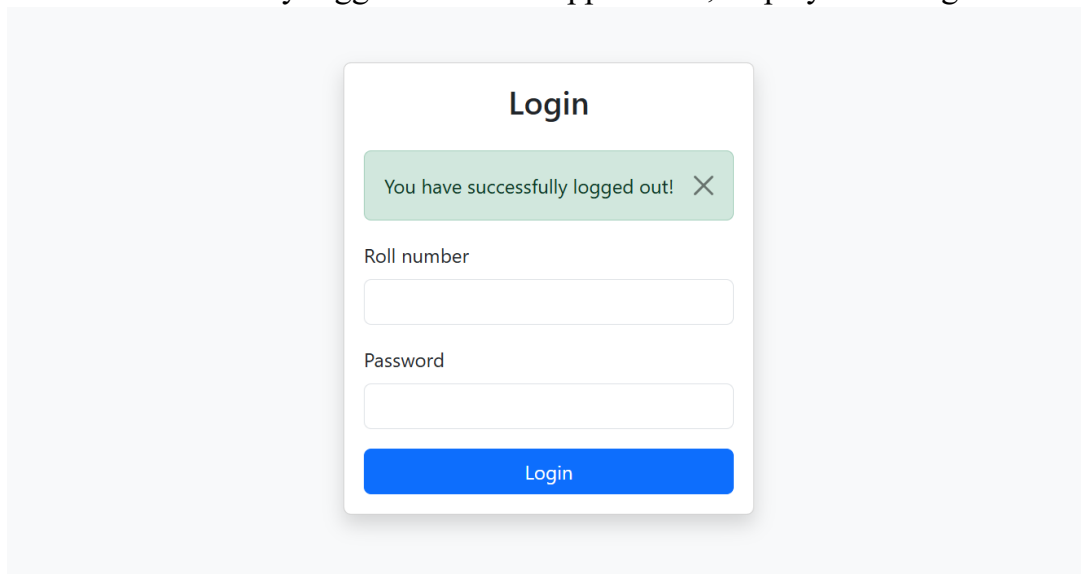
Roll Number	Gender
CE123456	Male
First Name	Last Name
John	Doe
Math	English
5.0	3.700000047683716
GPA	Major
4.566666682561238	Software Engineer

5. Implement the “**Major**” model. [0.5 points]
6. Re-implement the “**Student**” model view to display information of student’s major. [1.5 points]
7. Re-implement the “**profile.jsp**” view to display information of student’s major. [1 point]
8. Implement the GPA calculate method with this formular: [0.5 points]

$$GPA = \frac{(2 \times \text{math}) + \text{english}}{3}$$

Re-implement the “**profile.jsp**” view to display information of student’s GPA.

9. Display any grades lower than 5 in red text. [0.5 points]
10. Display the student’s gender by the convention: [0.5 points]
 - Female for gender value = 0
 - Male for gender value = 1
11. Authentication [1 point]
 - a. When the user hasn’t logged in, if they access to the /profile, redirect them back to the /login page in order to limit the access. [1 point]
 - b. After successfully logged out of the application, display a message as below [1 point]



The image shows a login form titled "Login" with a light blue header. Below the header, there is a green message box that says "You have successfully logged out!" with a close button (X). The form contains two input fields: "Roll number" and "Password". Below the input fields is a blue button labeled "Login".

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