**Database Development and Class Registration**

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CST499: Capstone for Computer Software Technology

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**Database Development and Class Registration**

As part of this project, I worked through several key stages to build and connect the system functionality. Here’s a breakdown of the main steps I took and what I learned from the process:

1. Setting Up User Authentication

* I started by creating a users table and building both registration and login pages.
* To keep things secure, I used password hashing and validation.
* I implemented PHP sessions so users could stay logged in as they navigated the site.

1. Connecting Frontend and Backend

* I linked HTML forms to PHP scripts that handle the backend processing.
* I set up the database connection and learned how to handle common connection errors.
* I also used prepared statements to prevent SQL injection and improve security.

1. Adding Course Registration Features

* I added new tables for storing course and registration information.
* I built pages that display available courses and allow users to register or drop them.
* I made sure the database updated correctly whenever changes were made to a user’s course list.

1. Debugging and Troubleshooting

* I ran into some issues like blank pages, which I resolved by turning on error reporting.
* I identified and fixed missing code that was causing fatal errors.
* I also double-checked session handling and SQL queries to make sure everything was working as expected.
* I added detailed error messages for easier debugging.

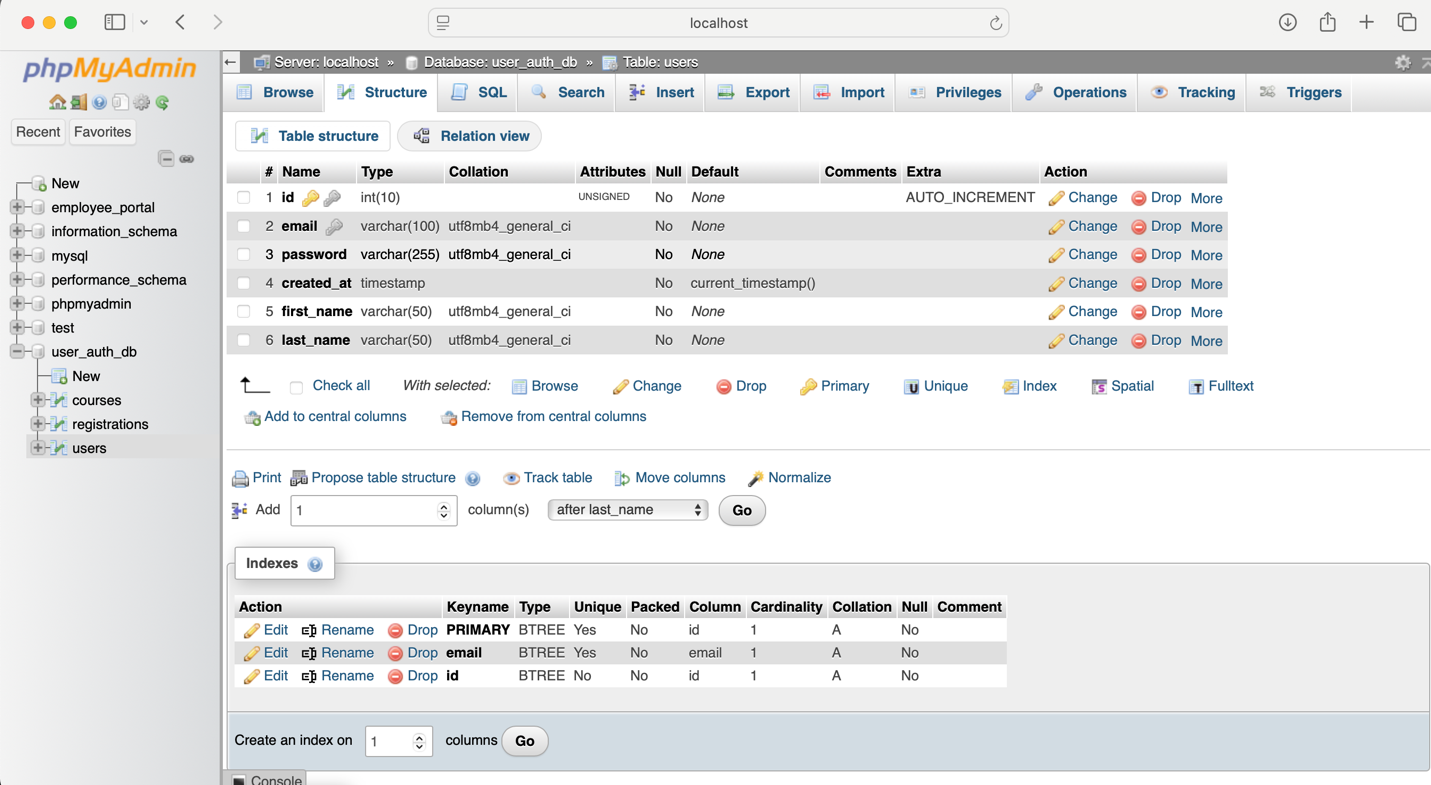
1. Improving User Experience

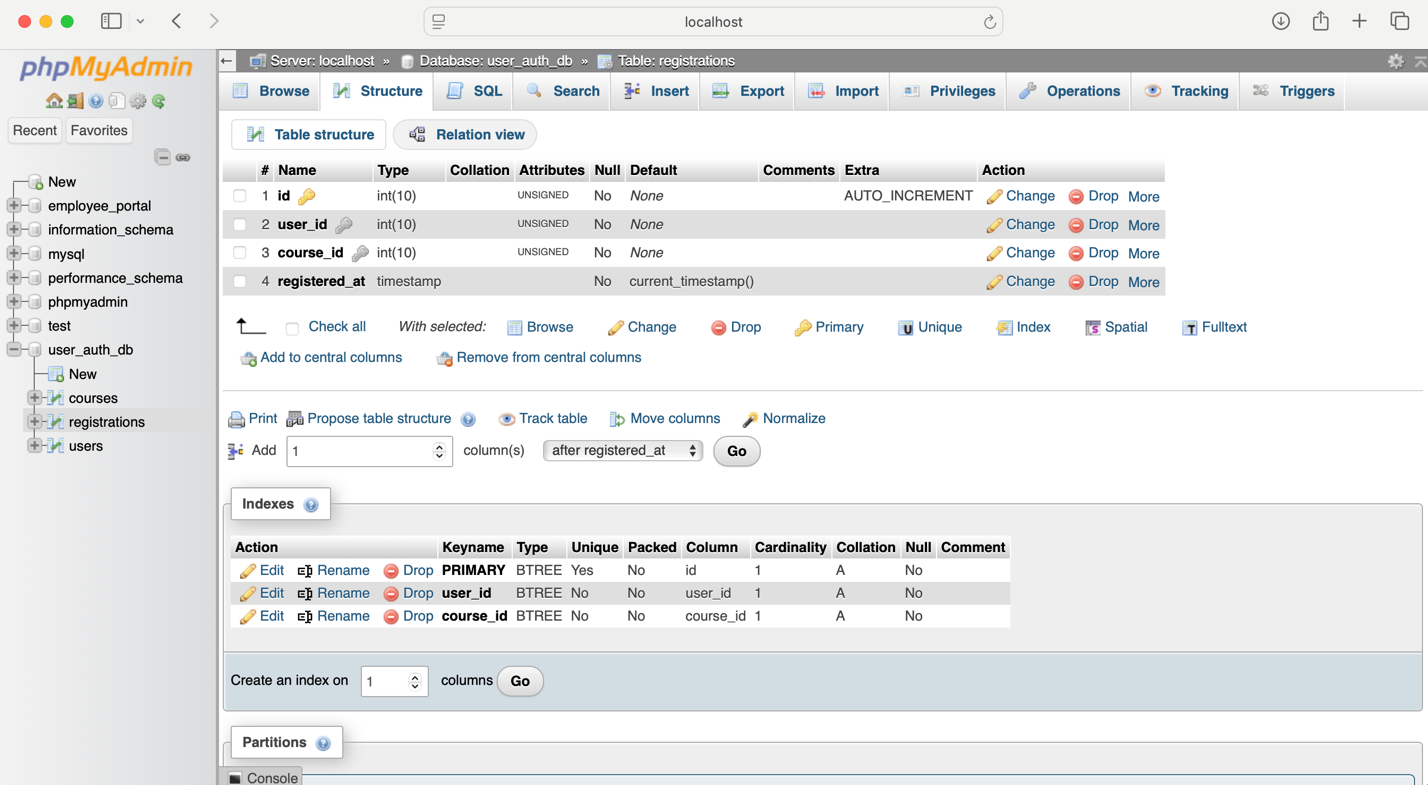
* I included success and error messages to provide feedback to users after certain actions.
* I implemented a logout feature that clears the session properly.
* I kept the design clean and simple by using basic HTML tables and forms for usability.

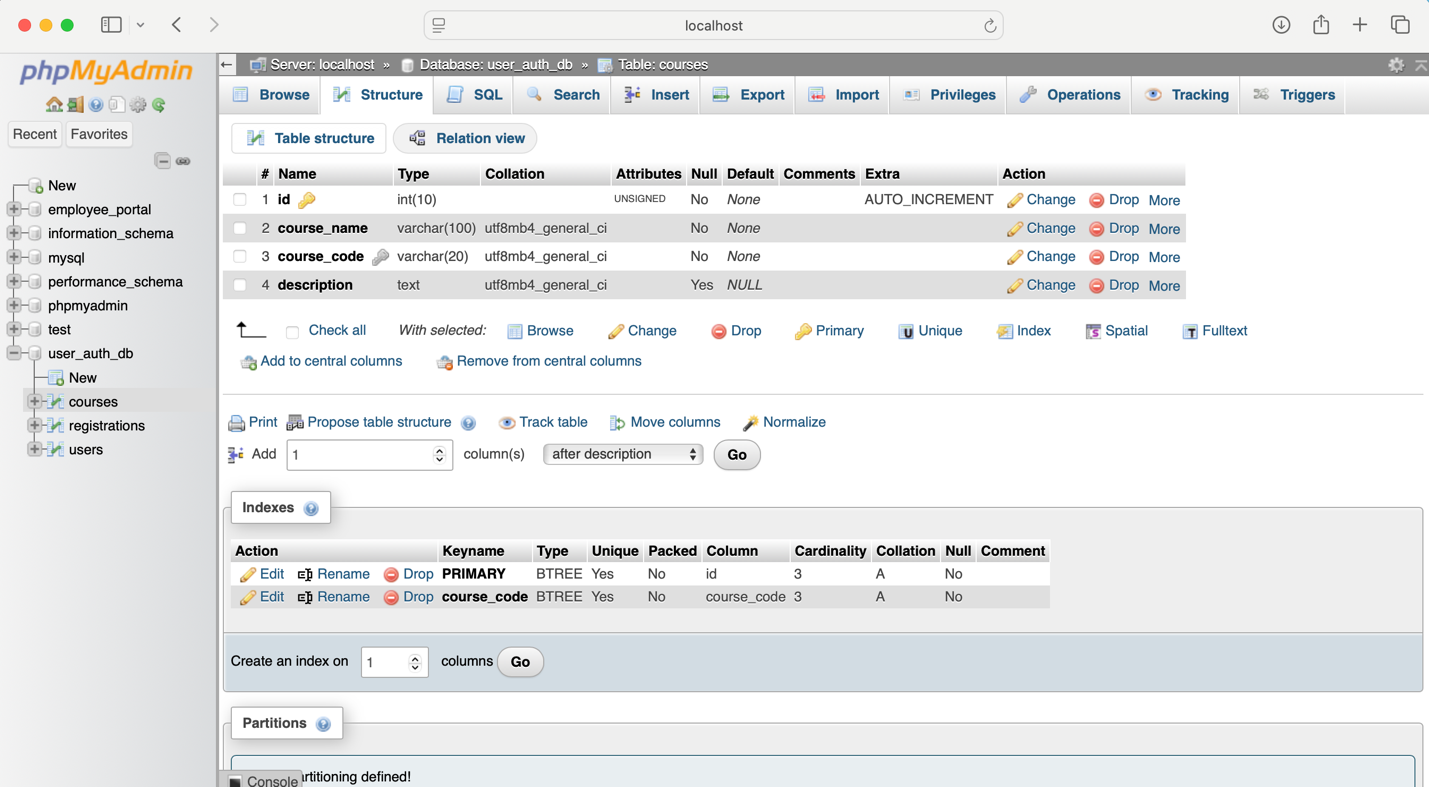
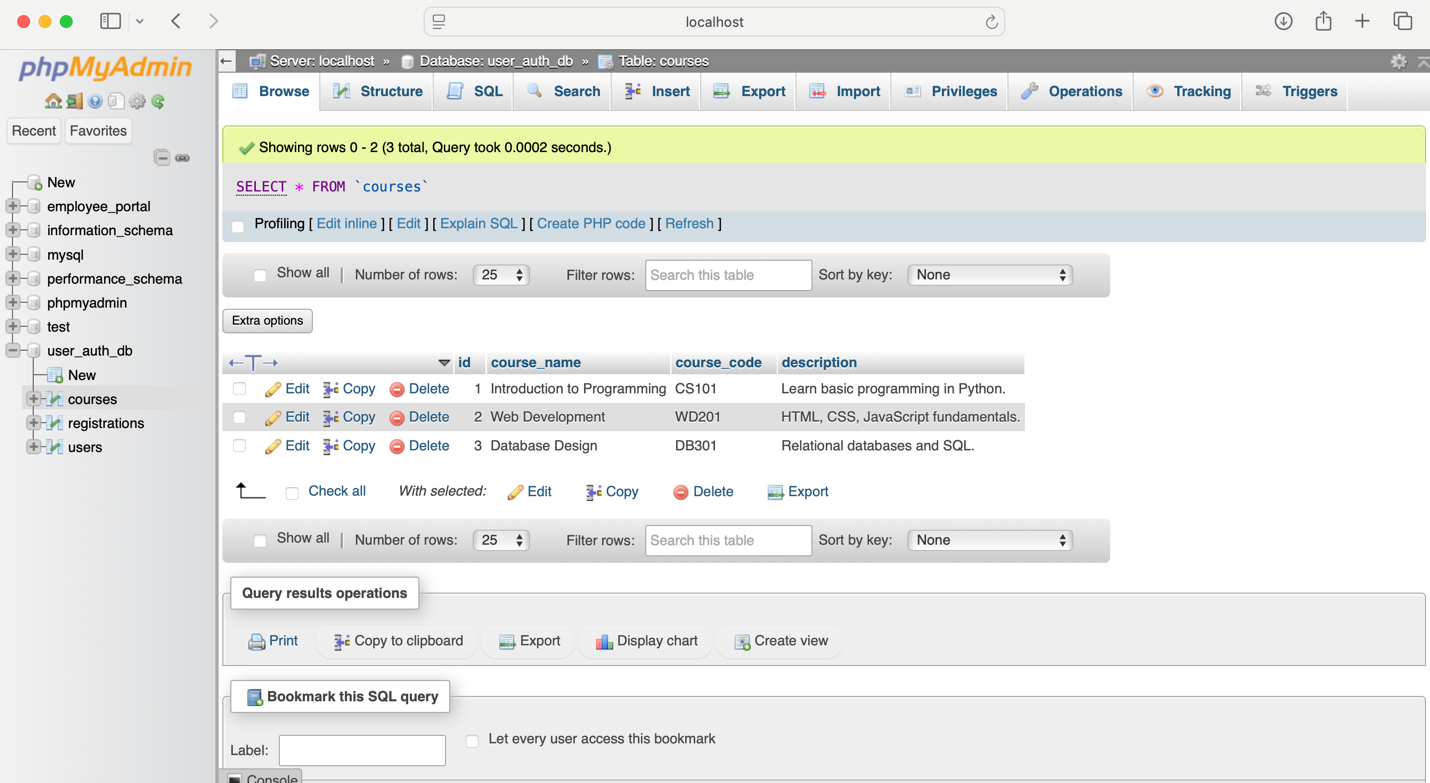
**Overall Reflection**

Overall, this project really helped me understand and apply important web development best practices. I gained a stronger appreciation for things like proper error handling, secure session and database management, step-by-step debugging, and keeping the frontend and backend logic clearly separated. It was a valuable hands-on experience that gave me a clearer picture of how to build a secure and functional user/course management system from the ground up.

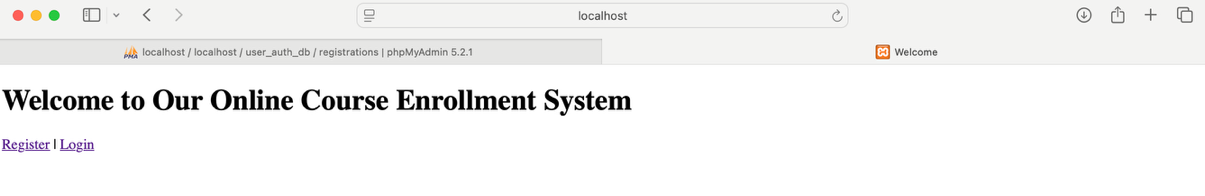
Screenshots of the database and the tables created:

Users:  


Registration

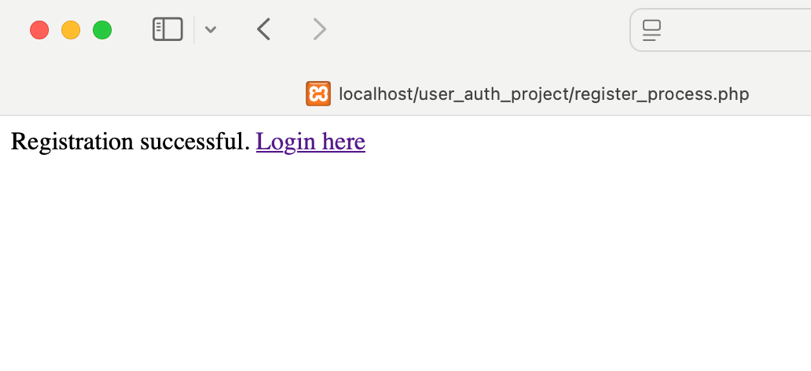
Courses 

Screenshots of the different pages that you created:  
Welcome Page:

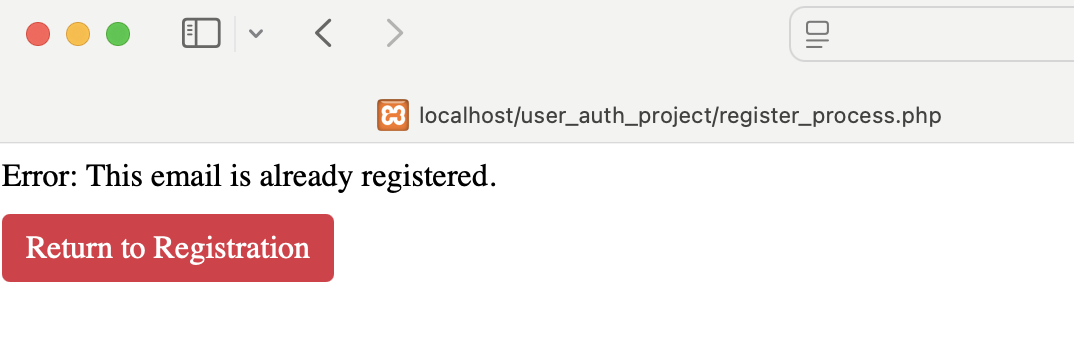


User Registration:  
A screenshot of a login form

AI-generated content may be incorrect.

Successful Registration:  


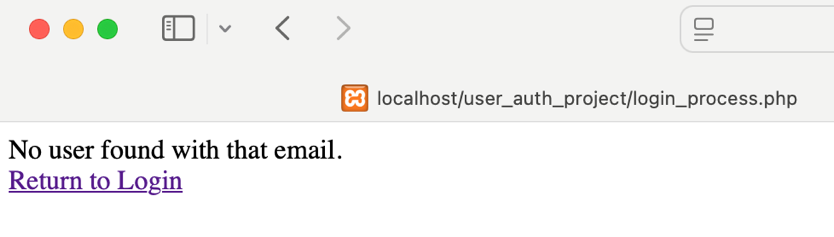
Unsuccessful Registration:

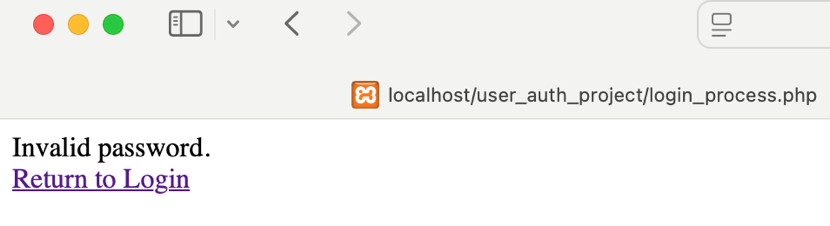


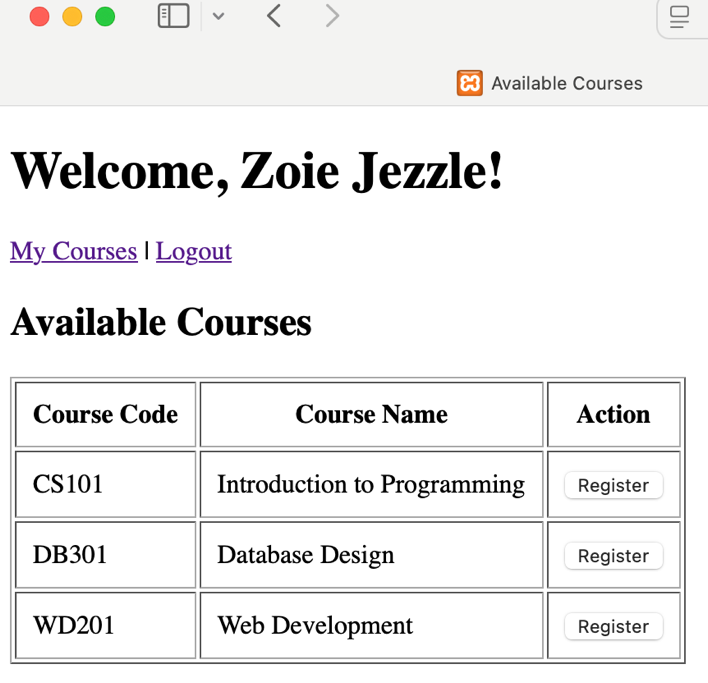
User Login

A screenshot of a login form

AI-generated content may be incorrect.

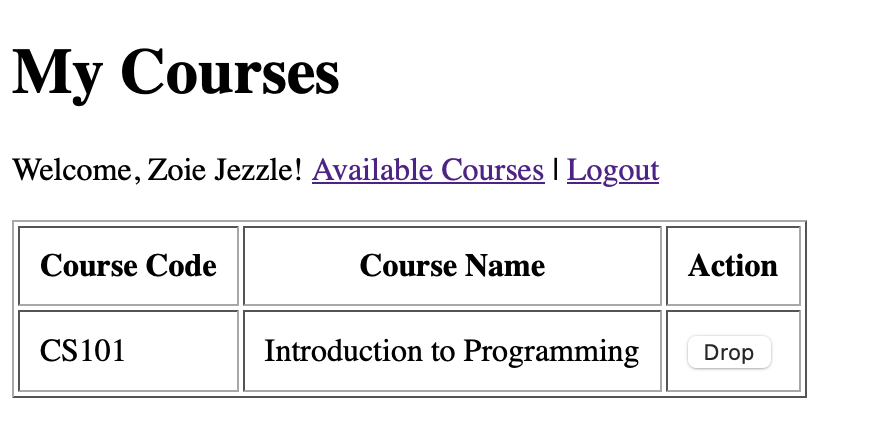
Login error when no email found:  


Login error when wrong password is used:  


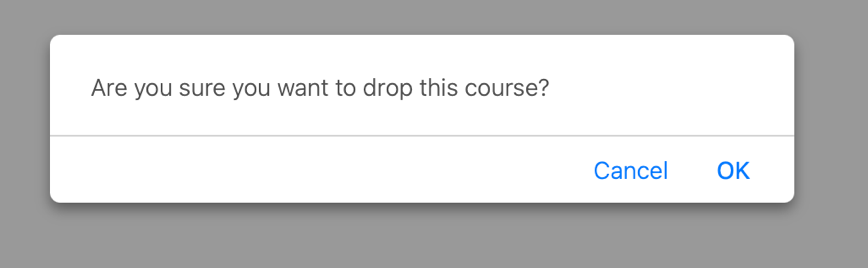
User Registration Page:  


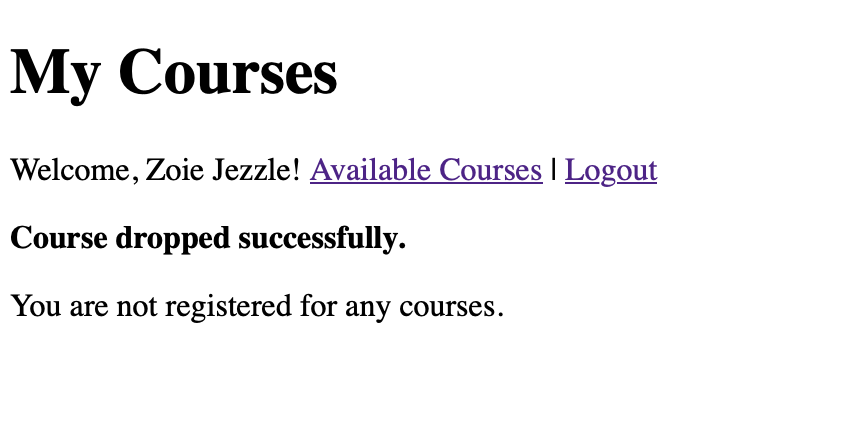
Registration Successful:  

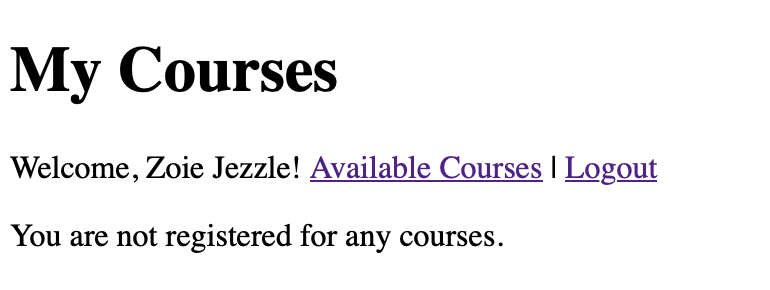

My Courses:



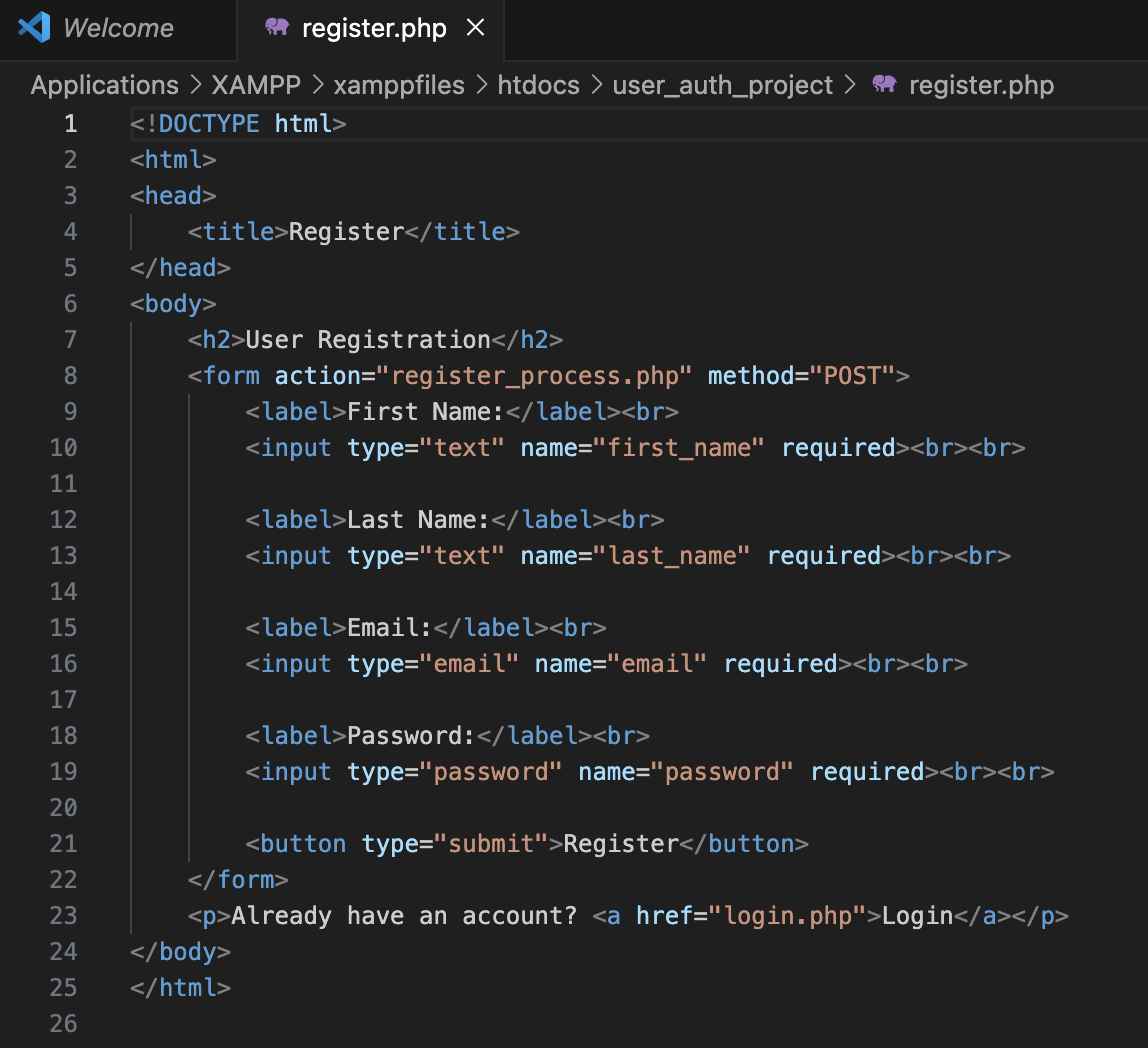
Drop Courses with a confirmation:



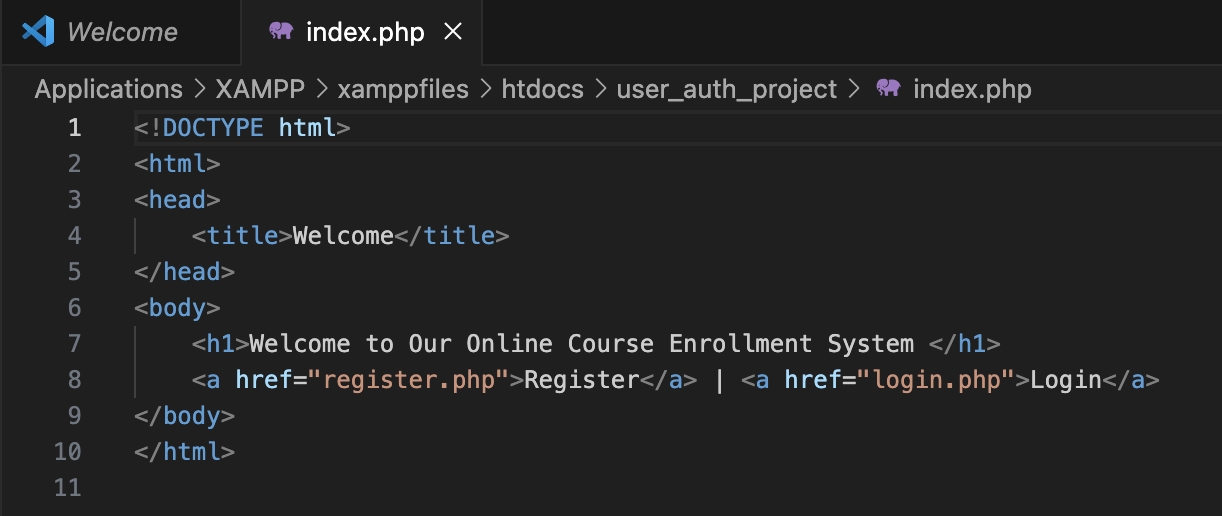


Logout:  
 

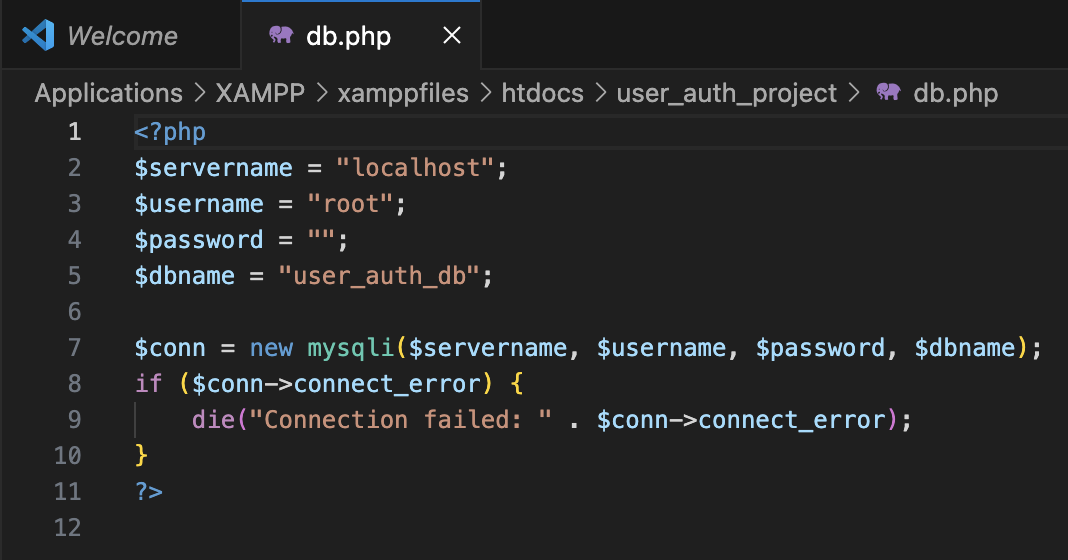
Register.php:



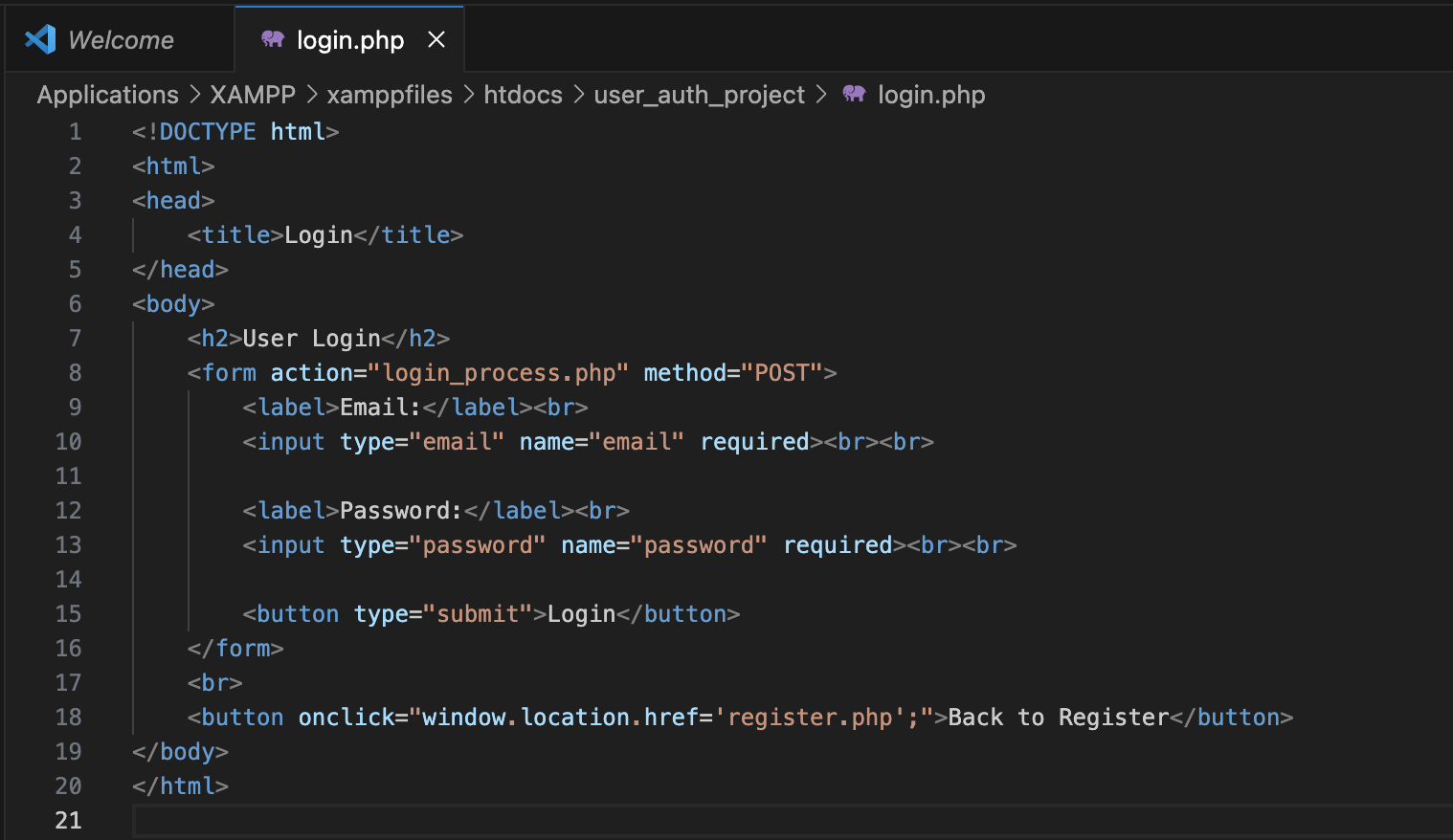
Index.php



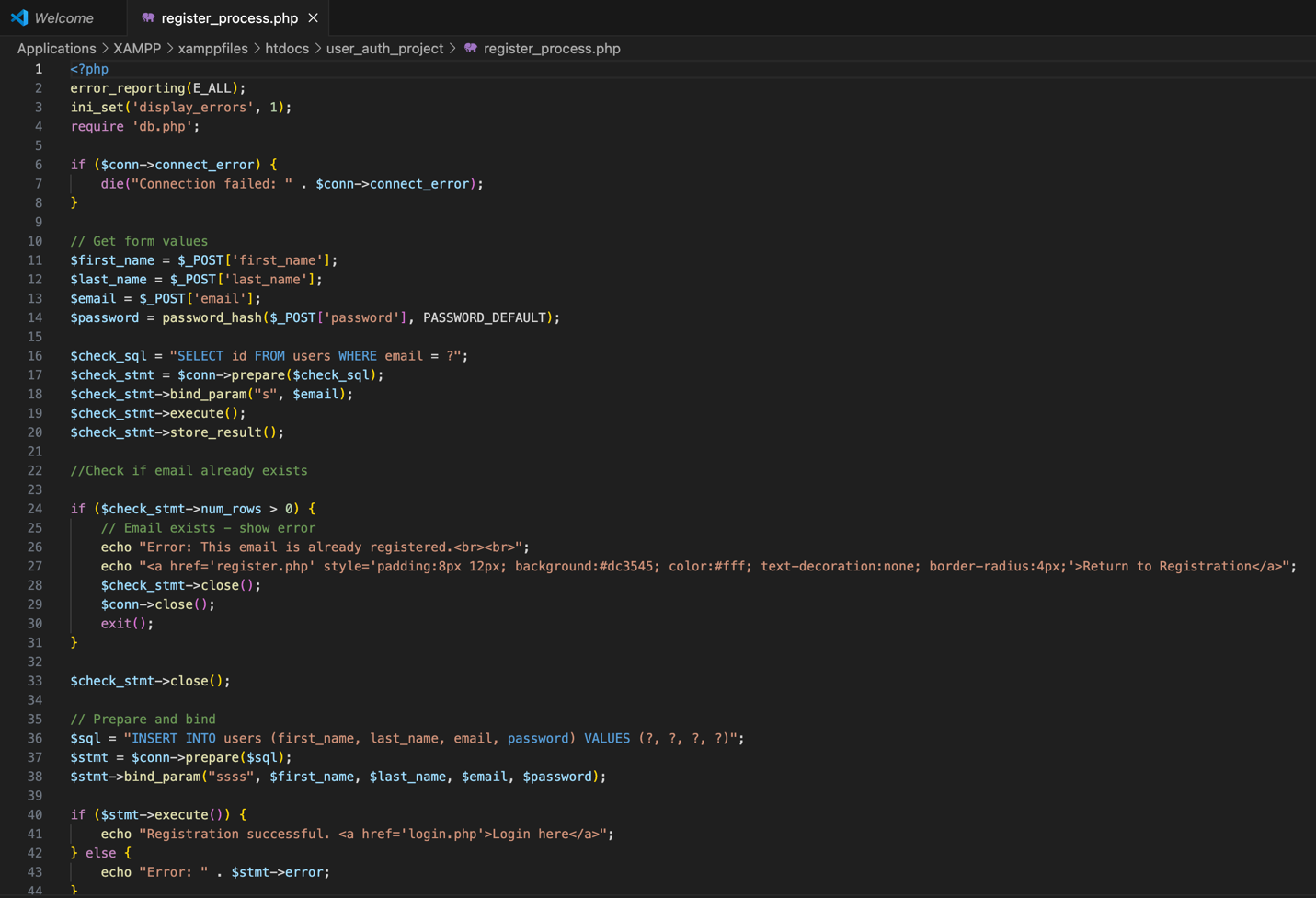
Db.php



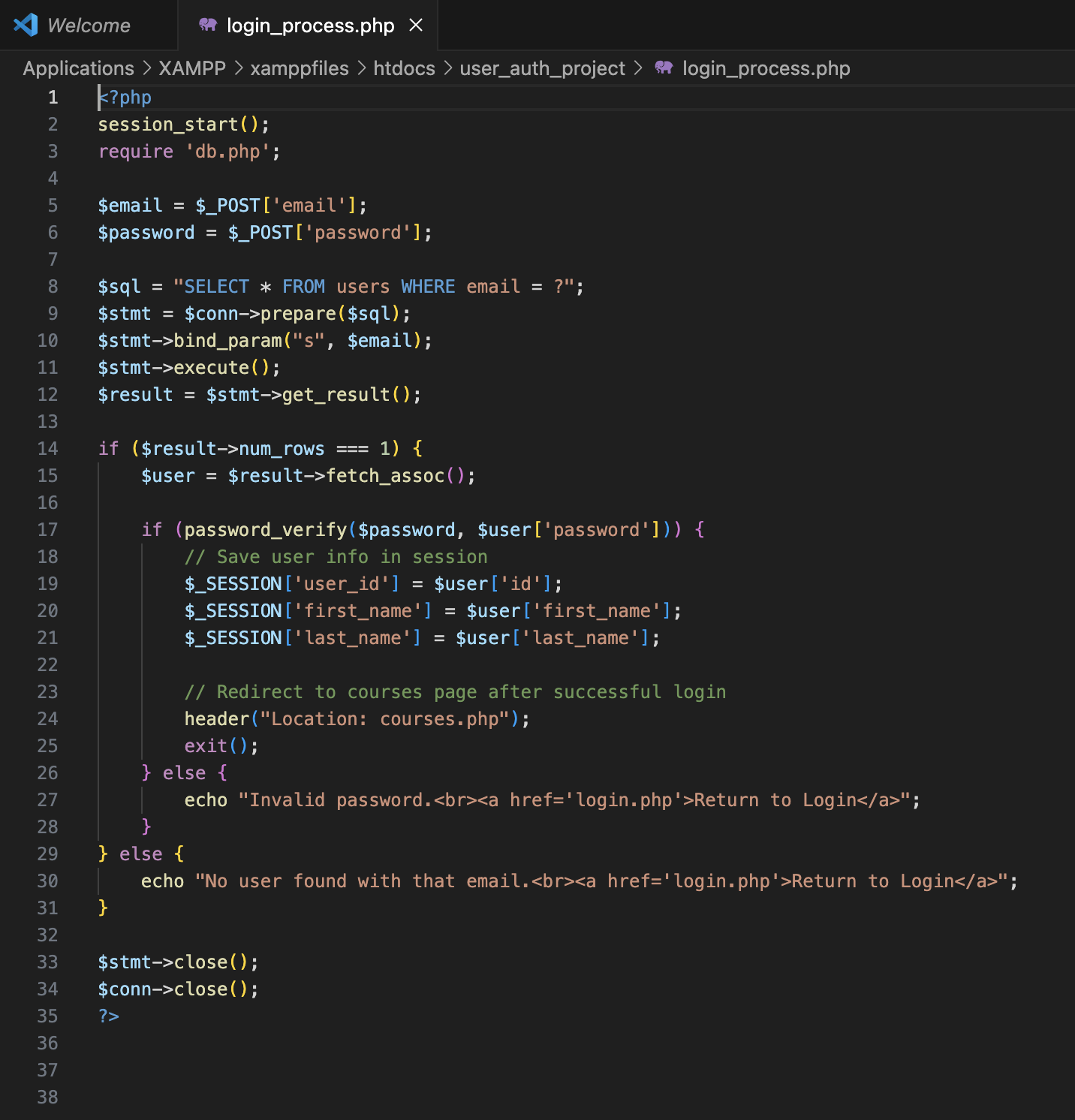
Login.php

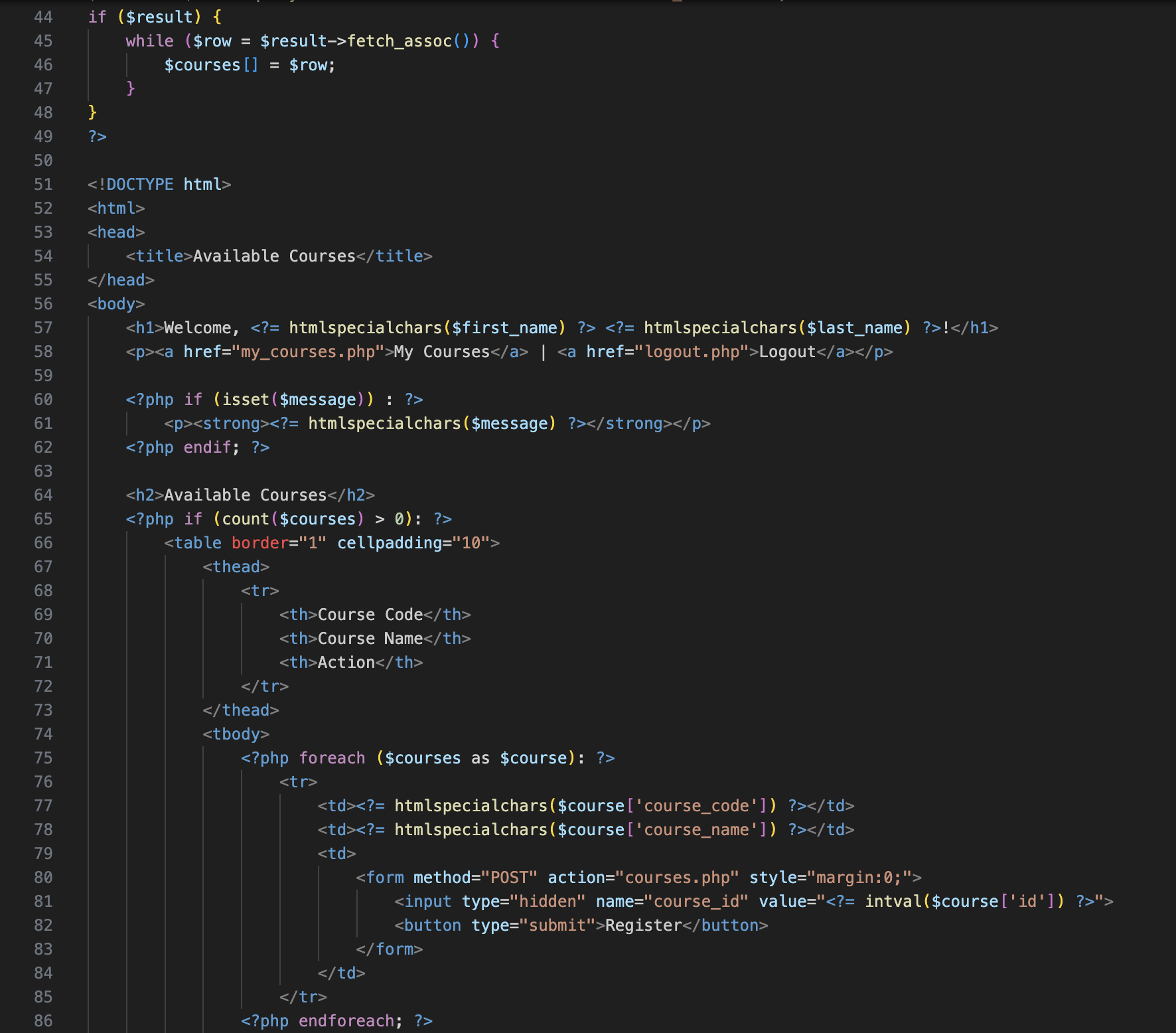


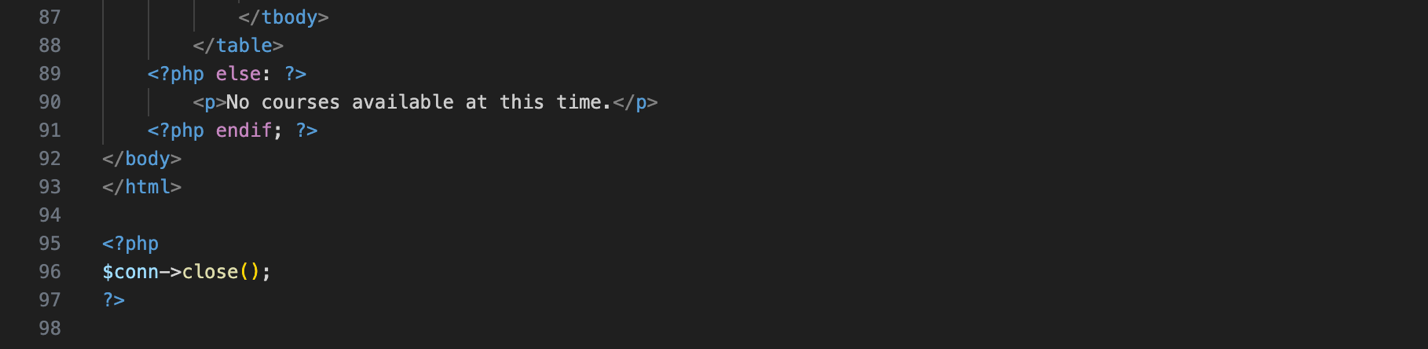
Register\_process.php

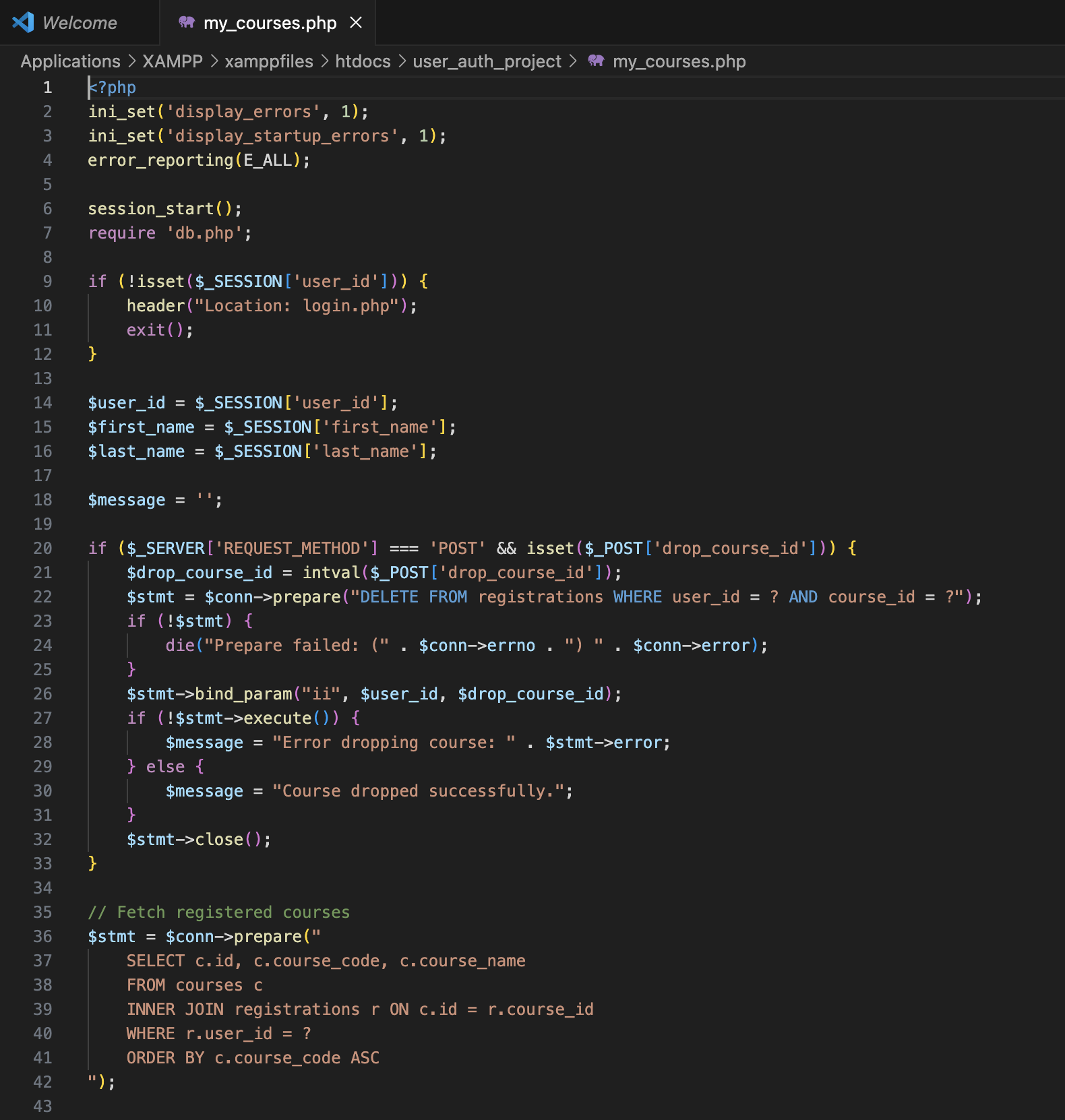


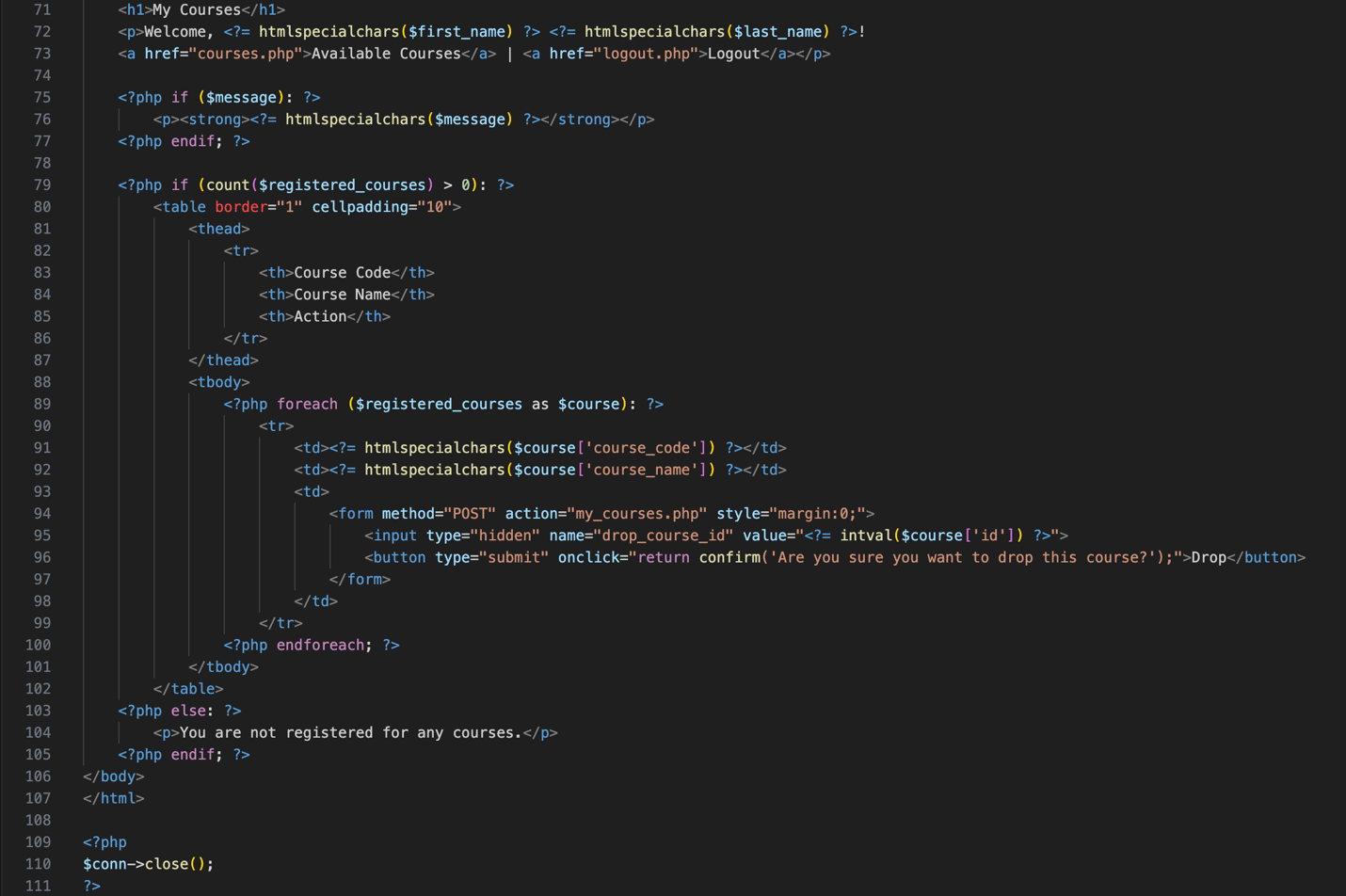
Login.php



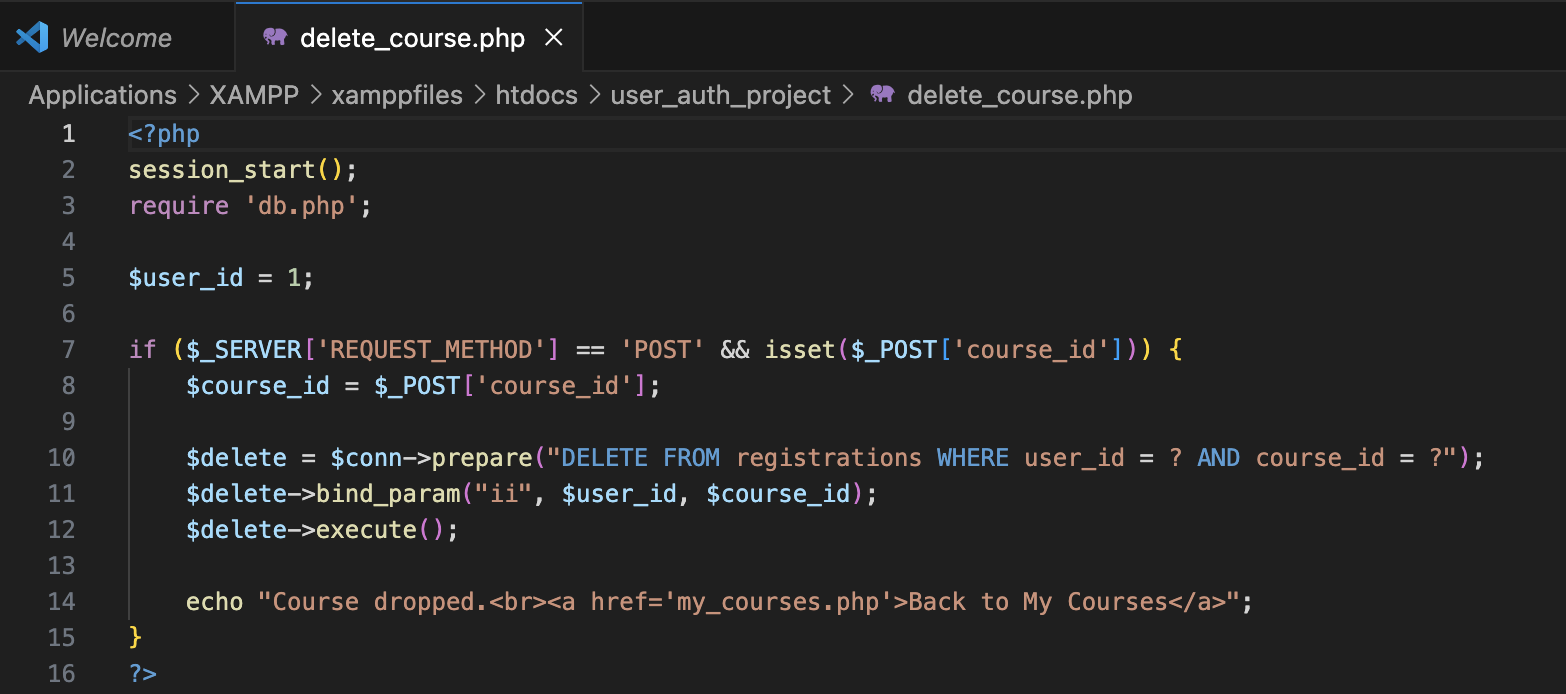
Courses.php:



My\_courses.php:  




Delete\_course.php



Logout.php:

