**Problem Statement:**

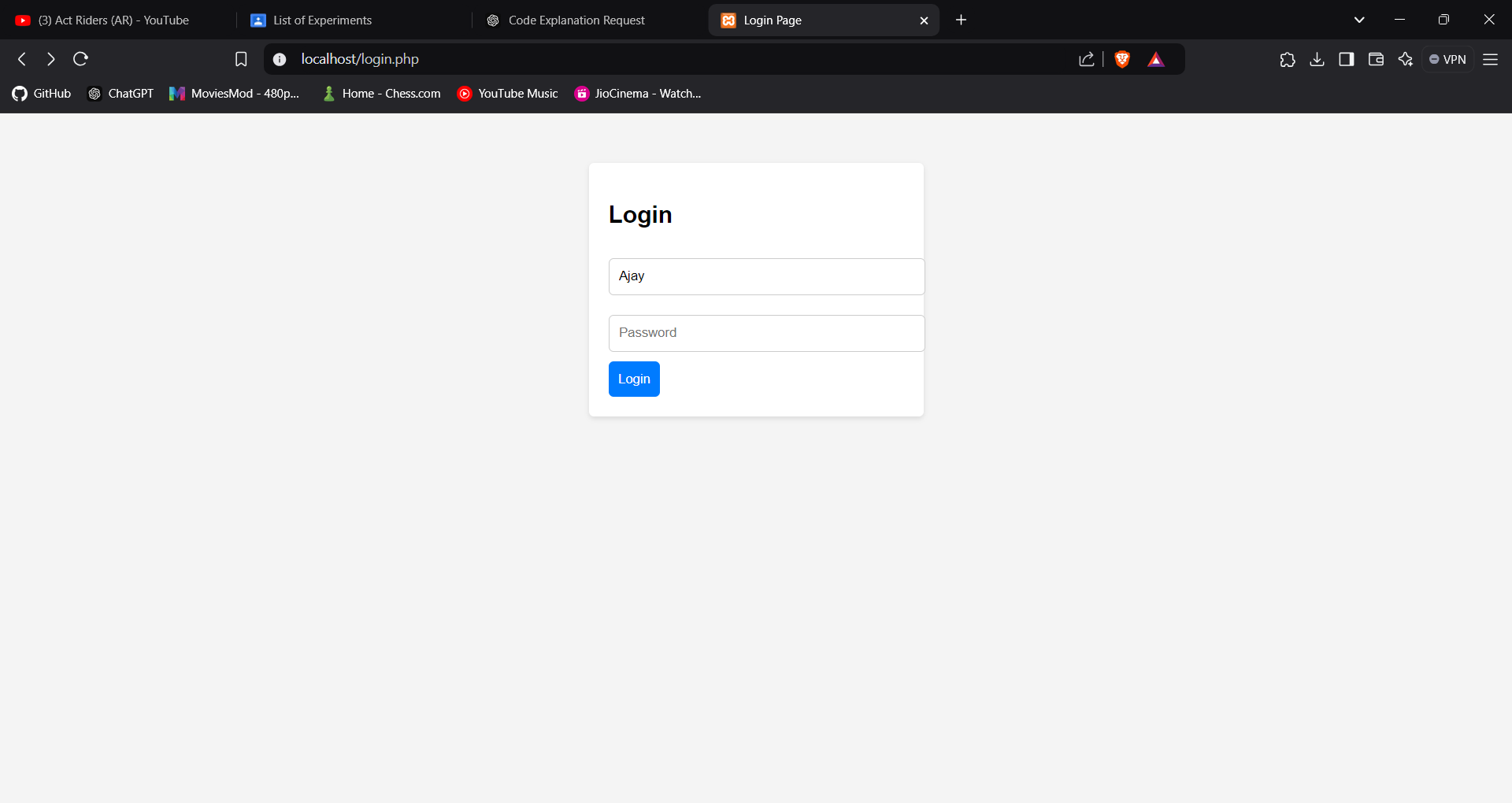
Create a PHP program that demonstrates session management by allowing users to log in and access a protected page. The program should:

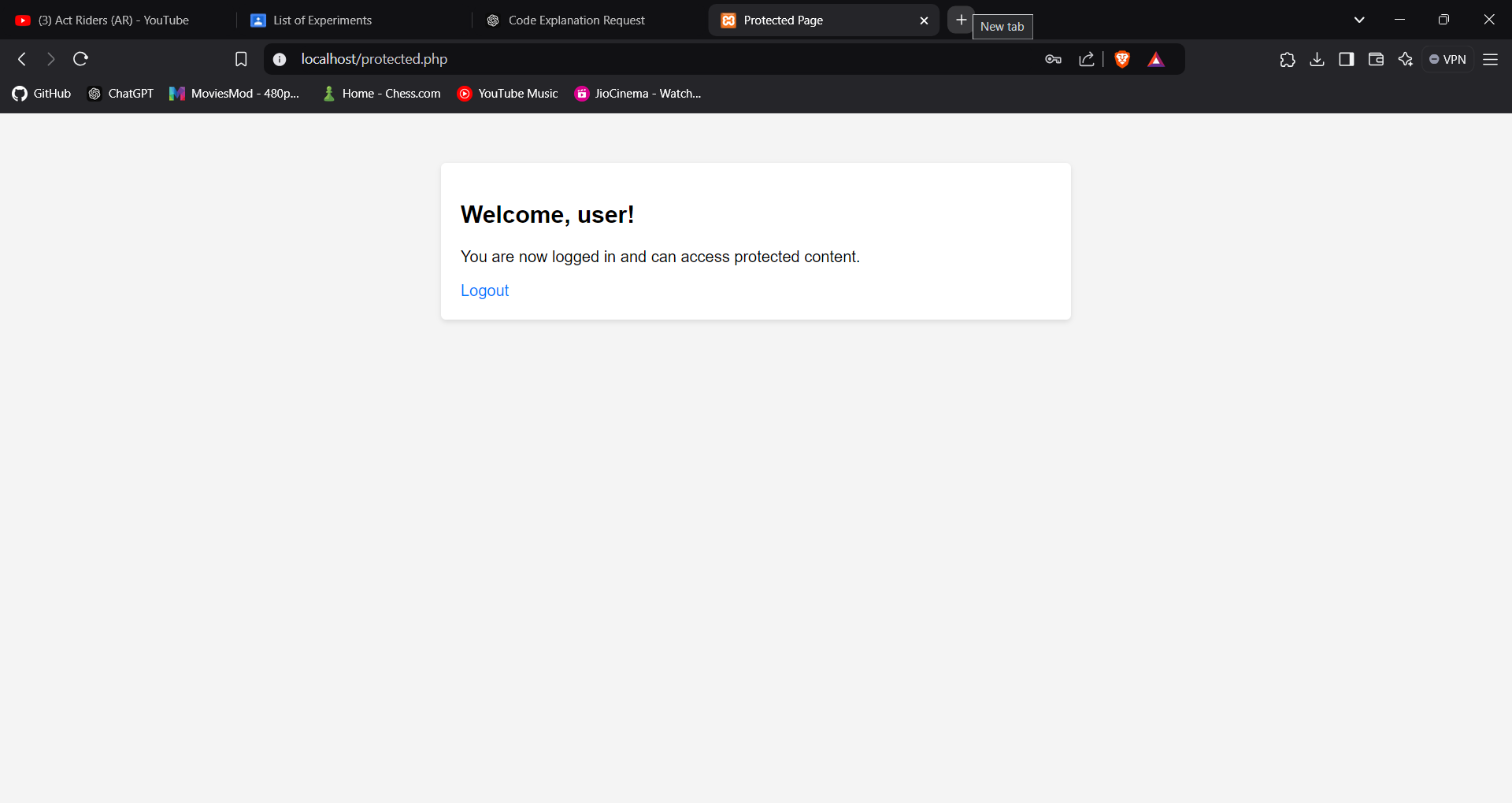
1. Provide a login form with fields for username and password.
2. Validate the login credentials.
3. Use PHP sessions to keep the user logged in.
4. Provide a logout option that destroys the session and redirects the user to the login page.
5. Display a welcome message on the protected page for logged-in users.

**Steps Taken to Solve the Problem:**

1. **Create a Login Form**:
   * Use HTML to create a form with fields for username and password.
   * Include a submit button to send the form data to the server.
2. **Start a Session**:
   * Use session\_start() at the beginning of the script to initiate a session.
3. **Handle Login Submission**:
   * Check if the form is submitted using the $\_POST superglobal.
   * Validate the submitted username and password.
   * If valid, set session variables to keep track of the logged-in user.
4. **Create a Protected Page**:
   * Check if the session variable for the user is set. If not, redirect to the login page.
5. **Logout Functionality**:
   * Create a logout link that destroys the session and redirects the user to the login page.
6. **Display Messages**:
   * Use echo statements to display appropriate messages based on the user's session status.

**Output:**

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