Mini Project Test Cases

**Logic Loop**

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MCA Sem 1

Here are the test cases required for the "Logic Loop" project to ensure its functionalities work as intended:

**Frontend Test Cases**

**View Blogs**

1. **Display Blogs**
   * Verify that all available blogs are displayed on the homepage.
   * Ensure blogs are displayed with proper titles, short descriptions, and authors.
2. **Blog Details**
   * Verify that clicking on a blog opens the detailed view with full content, author information, and comments.

**Write Blogs**

1. **Blog Creation Form Validation**
   * Verify that the form validates required fields (title, content) and rejects incomplete submissions.
2. **Successful Blog Submission**
   * Check if a new blog is successfully saved and appears in the blog list after submission.
3. **Authorization**
   * Ensure only logged-in users can access the "Write Blog" feature.

**Read Comments**

1. **Comment Visibility**
   * Verify that all comments for a specific blog are displayed below the content.

**Login/Sign-Up**

1. **Login Validation**
   * Verify that only valid credentials allow access, and incorrect ones show appropriate error messages.
2. **Sign-Up Functionality**

* Ensure new users can create accounts and receive confirmation messages upon successful registration.

1. **Access Restriction**

* Check that restricted features (e.g., write blogs, profile management) are accessible only to logged-in users.

**User Profile**

1. **View Profile**

* Verify that the user's profile displays correct information (e.g., name, email, blogs).

1. **Edit Profile**

* Ensure profile updates are saved and reflected accurately.

1. **Manage Blogs**

* Test that users can view, edit, or delete their blogs.

**Search Functionality**

1. **Search by Keywords**

* Verify that the search returns accurate results based on keywords or topics.

1. **Search by Author**

* Ensure searching by an author’s name returns all relevant blogs.

1. **No Results**

* Test that an appropriate message is shown if no blogs match the search criteria.

**Admin Features**

1. **User Management**

* Verify that the admin can view the user list and delete users as needed.

1. **Content Moderation**

* Check that the admin can edit or delete blogs and comments.

**Backend Test Cases**

**API Endpoints**

1. **Blog Data Retrieval**

* Ensure APIs for retrieving blog data return correct information and handle edge cases (e.g., no blogs available).

1. **Blog Creation**

* Verify that the API saves blog data correctly and responds with success messages.

1. **Comment Management**

* Test APIs for adding, retrieving, and deleting comments.

1. **Authentication**

* Ensure login and sign-up APIs validate inputs and return tokens upon successful login.

1. **Admin Operations**

* Verify admin APIs for user and content management work as expected.

**Database Test Cases**

**Data Storage and Retrieval**

1. **User Data**

* Verify user details are stored correctly upon registration and can be retrieved accurately.

1. **Blog Data**

* Test that blog entries, including their associated comments, are saved and retrieved without data loss.

1. **Search Functionality**

* Ensure keyword searches query the database efficiently and return correct results.

**Performance Test Cases**

1. **Load Handling**

* Test the platform's performance with multiple concurrent users accessing blogs, adding comments, or performing searches.

1. **Response Time**

* Verify that responses from APIs (e.g., blog retrieval, search) are within acceptable time limits.

**Security Test Cases**

1. **Authentication and Authorization**

* Ensure only authorized users can access restricted features and no unauthorized access is possible.

1. **Data Validation**

* Test for SQL injection, XSS, or other vulnerabilities in user inputs.

1. **Sensitive Data Protection**

* Verify that sensitive data (e.g., passwords) is encrypted in the database.

These test cases cover the core functionalities, ensuring the "Logic Loop" platform operates effectively and securely.