Purpose

The code creates a Flask-based Library Management System API. It supports user authentication, CRUD operations for books and members, and ensures access security with token-based authentication.

Functions

1. **`token_required` Decorator**

   - Validates the presence and authenticity of a token.
   - Protects sensitive routes from unauthorized access.

2. **Login (`/login`)**

   - Verifies admin credentials and generates a token for authenticated access.

3. **Books Management**

   - `add_book`: Adds a book to the library with a unique ID, title, and author.
   - `get_books`: Retrieves books, filtered by title or author, with pagination support.
   - `update_book`: Modifies details of a book using its ID.
   - `delete_book`: Removes a book based on its ID.

4. **Members Management**

   - `add_member`: Adds a new member with name and email.
   - `get_members`: Lists all registered members.
   - `update_member`: Updates member details by their ID.
   - `delete_member`: Removes a member based on their ID.

5. **Homepage**

   - Displays a welcome message when accessing the root URL.

Test Script (`test.py`)

- Logs into the API to obtain a token.
- Adds predefined books and members to test the API functionality.