Test Case: User Sign-Up and Login

* Test user sign-up with valid credentials and verify that the user is created successfully.
* Test user sign-up with an existing username or email and verify that the application prevents duplicates.
* Test user login with correct credentials and verify that the login is successful.
* Test user login with incorrect credentials and verify that the login fails.

Test Case: Group Creation

* Test group creation with valid data and verify that a new group is created successfully.
* Test group creation with a duplicate group name and verify that the application prevents duplicates.
* Test group creation with non-existent members and verify that the application handles it gracefully.

Test Case: Expense Creation and Balance Tracking

* Test expense creation with valid data and verify that a new expense is created successfully.
* Test expense creation with invalid data and verify that appropriate error messages are displayed.
* Test expense creation with a custom split among group members and verify that the balances are updated correctly for all involved users.
* Test balance tracking by recording payments between users and verify that the balances are updated accordingly.

Test Case: Notification Service

* Test notification service for email and non-email users and verify that notifications are sent based on user preferences when an expense is created, or payments are recorded.

Test Case: Expense Approval

* Test expense approval functionality and verify that authorized users can approve or reject expenses, and the status of the expenses is appropriately updated.

Test Case: Expense Report

* Test expense report generation for a specified user and date range and verify that the generated report contains the correct expenses.

Test Case: Error Handling

* Test various error scenarios, such as invalid input data or incorrect method calls, and verify that the application handles them gracefully without crashing or showing unexpected behavior.