

## **8th August 2025 (Friday)**

The objective of today's session was to test, debug, and ensure stability of the project before the final evaluation phase. The mentor began by explaining the significance of multi-phase testing — unit testing, integration testing, and UI testing — in maintaining professional software quality. In the first hour, I initiated manual testing by simulating multiple user roles and checking how data was transferred between different screens. I created several test cases for login, registration, and profile update modules. Some issues were identified in input validation, particularly in email and password fields. After debugging, I implemented input sanitization methods to prevent incorrect data entries.

In the second hour, we used Logcat and Android Profiler to monitor the app's behavior during runtime. I observed CPU and memory usage during high activity, especially when switching between fragments. A few redundant listeners were detected and removed to optimize performance. I learned how to apply asynchronous operations using AsyncTask and Handler for smoother background operations.

The mentor encouraged documenting every test result and correction made, as this record demonstrates professionalism and accountability. The day concluded with final manual testing of data synchronization using Firebase Realtime Database. The mentor emphasized maintaining balance between functionality and efficiency, and I realized how testing forms the backbone of a reliable application. The experience refined my debugging abilities and taught me the discipline of structured testing cycles in mobile app development.