**LIBcore Test Plan**

**Test Environment**

* Language: Java 17
* Framework: JUnit 5
* IDE: Eclipse or IntelliJ
* Build: No external dependencies (plain .java files)

**Instructions to Run the Test Suite**

1. Open the LIBcore project in Eclipse or IntelliJ.
2. Make sure the test/ folder is inside the project directory.
3. Ensure JUnit 5 is in your classpath (usually included by default in IDEs).
4. Right-click AllTests.java > Run as > JUnit Test.
5. You will see results for all individual service test cases.

**Classes Being Tested**

* AuthenticationService
* SessionManager
* ResourceManager
* TransactionManager
* UserManager

**Test Suite Contents**

**1. AuthenticationServiceTest.java**

* validateCredentials()
  + Valid login with correct ID and password
  + Invalid login with wrong password
  + Nonexistent user ID
* getUser()
  + Fetch user details for valid ID

**2. SessionManagerTest.java**

* createSession()
  + Session created and active immediately after login
* isSessionActive()
  + Returns true within timeout
  + Returns false after timeout
* endSession()
  + Terminates session manually

**3. ResourceManagerTest.java**

* addResource()
  + Adds a resource with valid details
* updateAvailability()
  + Changes availability from true to false and vice versa
* getAllResources()
  + Ensures the full list of resources is loaded

**4. TransactionManagerTest.java**

* getAllTransactions()
  + Loads transactions from text file and validates record count/format

**5. UserManagerTest.java**

* getAllUsers()
  + Loads users and checks fields like name and role