Lab 5: Use of Kanban Board

Objective: The objective of this lab was to explore the Kanban methodology in Agile project management. The goal was to learn how visualizing tasks, limiting Work In Progress (WIP), and maintaining steady flow contribute to effective teamwork, transparency, and timely delivery.

Tools Utilized

- ➤ **Trello / Jira** – For implementing the Kanban board digitally
- ➤ **Sticky Notes / Cards** – For representing tasks on physical boards
- ➤ **Markers & Labels** – For visual clarity and categorization
- ➤ **Web Browser + Internet** – For accessing online tools

Methodology

Step 1: Learning Kanban Basics

- ➤ Understood five core principles of Kanban:

    1. Visualize workflow
    2. Limit work in progress (WIP)
    3. Manage flow
    4. Make policies explicit
    5. Improve collaboratively and continuously

Step 2: Creating the Kanban Board

- ➤ Created four columns:
    - ◆ **To Do**, **In Progress**, **Testing**, **Done**

- ➤ Populated the board with sample tasks and assigned team members with deadlines

Step 3: Applying WIP Limit

- ➤ A WIP limit of **2 tasks** was applied to the **In Progress** column
- ➤ Ensured that no more than two tasks were active at once
- ➤ This helped identify any **bottlenecks** and reduce multitasking

Step 4: Simulating Workflow

- ➤ Simulated a development cycle where tasks moved through the board (e.g., **To Do → In Progress → Testing → Done**)
- ➤ Logged issues such as delays and uneven task distribution
- ➤ Discussed how to optimize task flow and team balance

Kanban Board Example

To Do	In Progress	Testing	Done
Task 1: Design landing page UI	Task 3: Implement login API	Task 6: Unit Test login	Task 5: Validate inputs
Task 2: Write cart user story	Task 4: Connect to PostgreSQL	Task 7: Setup DB schema	Task 8: Configure GitHub

Example Task Card

- **Title**: Implement Login API
- **Assignee**: John
- **Due Date**: June 24
- **Priority**: High
- **Description**:
  - Develop secure endpoint for user login
  - Validate email and password inputs
  - Return a session token on success
  - Handle errors for invalid or missing data

Key Observations

- The **visual Kanban board** helped everyone understand project progress in real-time
- **Limiting WIP** encouraged task focus and prevented overloading team members
- Tracking movement across stages revealed process gaps and improvement areas

Conclusion

The Kanban Board proved to be an effective Agile tool for managing workflow with clarity and efficiency. This hands-on activity emphasized how **small process tweaks** (like WIP limits) can have a big impact on team productivity. Overall, the lab deepened our understanding of **flow-based work management** and continuous improvement in Agile projects.