Week 2: Intermediate Tasks – Test Management & Tools

Test Case Design Techniques

Structured methods used to create effective test cases with maximum coverage and minimum effort.
They help identify important test scenarios and reduce redundant testing.

Equivalence Partitioning

Divides input data into valid and invalid groups (partitions).
One test case from each group is enough to represent all values in that partition.

Example:
Age field (18–60) → Test one value inside range (25) and one outside (15).

Boundary Value Analysis (BVA)

Focuses on testing values at the edges of input ranges.
Defects are most likely to occur at boundary limits.

Example:
Range 1–100 → Test 1, 100, 0, and 101.

Decision Table Testing

Used when multiple conditions and rules affect the output.
Ensures all possible combinations of conditions are tested.

Example:
Login → Valid username + valid password = Login success
Invalid combinations = Error message

State Transition Testing

Tests system behavior when moving from one state to another.
Useful for applications with different states like login, logout, or account lock.

Example:
Login attempts → 3 failed attempts → Account locked state

Test Management Tools

Tools used to plan, organize, execute, and track test cases and defects in one place.
They help QA teams manage testing efficiently and monitor overall quality.

TestLink

An open-source test management tool used to create, organize, and execute test cases.
It supports requirement mapping, test plans, and execution reports.

TestRail

A popular web-based test management tool used by QA teams.
It provides test case management, test runs, reports, and defect integration.

Google Sheets (for Practice)

Used as a simple test management tool when TestLink/TestRail is not available.
Test cases, execution status, and bugs can be tracked in structured sheets.

Test Execution Process

1. Select test cases from the test plan.
2. Execute test cases and record Actual Result & Status (Pass/Fail).
3. Log defects for failed test cases.
4. Retest fixes and perform regression testing.

Defect Tracking Process

1. Identify and log a bug with steps, expected & actual result.
2. Assign severity and status (Open, In Progress, Fixed).
3. Developer fixes the defect.
4. QA retests and closes or reopens the bug.

Bug Tracking with Jira

Jira is a widely used project and bug tracking tool by QA and development teams.
It helps manage bugs, tasks, user stories, and track progress using workflows.

Set Up a Free Jira Board

Create a free Jira account and set up a project using Scrum or Kanban.
This allows you to create issues, track bugs, and manage testing tasks.

Jira Issue Types

- **Story:** Describes a user requirement or feature.
- **Task:** A unit of work to complete a specific activity.
- **Bug:** A defect where the actual result differs from the expected result.

Jira Status Flow

Defines the lifecycle of an issue from creation to completion.
Common flow: **To Do → In Progress → In Review → Done** (or Open → Fixed → Closed for bugs).

Priority vs Severity

- **Priority:** How urgently a bug needs to be fixed (High, Medium, Low).
- **Severity:** Impact of the bug on system functionality (Critical, Major, Minor).

Creating User Stories

Written from an end-user perspective to define requirements.
Format: *As a user, I want [feature], so that [benefit].*

Creating Tasks

Used to break down stories into smaller actionable items.
Helps developers and QA track daily work.

Creating Bug Tickets

Includes summary, steps to reproduce, expected vs actual result, and severity.
Ensures developers clearly understand and fix the issue.

Test Suite: Amazon Product Page (Manual Testing)

Test Case ID	Title	Scenario	Expected Result	Actual Result	Status	QA Comment
TC-AP-01	Product page loads	Open Amazon product detail page	Product page loads without error	Page loaded successfully	Pass	Page loading works fine
TC-AP-02	Product title visibility	Check product title	Product title should be visible	Title visible	Pass	UI is clear
TC-AP-03	Product image display	View product images	Images should load clearly	Images loaded correctly	Pass	No broken images
TC-AP-04	Image zoom feature	Hover/click on product image	Zoom should work	Zoom works	Pass	Feature works smoothly
TC-AP-05	Price display	Check product price	Correct price should be shown	Price displayed	Pass	Price visible
TC-AP-06	Availability status	Check stock availability	Stock status should be shown	In stock shown	Pass	Availability clear
TC-AP-07	Quantity selection	Change product quantity	Quantity should update	Quantity updated	Pass	No issue found
TC-AP-08	Add to Cart	Click “Add to Cart”	Product added to cart	Product added	Pass	Core functionality works
TC-AP-09	Buy Now button	Click “Buy Now”	Redirect to checkout/login	Redirected correctly	Pass	Expected flow
TC-AP-10	Product description	Scroll to description	Description should be readable	Description visible	Pass	Content ok
TC-AP-11	Customer reviews	Open reviews section	Reviews should load	Reviews loaded	Pass	Reviews accessible
TC-AP-12	Rating display	Check product rating	Rating should match reviews	Rating displayed	Pass	Data consistent

Dummy Bug Reports (Jira Format)

Bug ID	Summary	Steps to Reproduce	Expected Result	Actual Result	Severity	Status	QA Comment
BUG-AP-01	Add to Cart button disabled	1. Open product page 2. Select quantity 3. Try Add to Cart	Button should be clickable	Button disabled	High	Open	Blocks purchase flow
BUG-AP-02	Product image not loading	1. Open product page 2. Refresh page	Product image should load	Image broken icon shown	Medium	Open	UI issue
BUG-AP-03	Incorrect stock status	1. Open product page 2. Check availability	Should show correct stock	Shows “In Stock” for unavailable item	Critical	Open	Misleads users