Assignment No: 2

Problem Statement: Write Test Cases for Gmail Login Page

Objective:

• To design and write test cases for validating Gmail login functionality.

• To verify the correct behavior of components such as email, password, and login actions.

• To ensure the Gmail login page maintains accuracy, user-friendliness, and secure authentication.

Hardware Requirements:

Intel Core i3 or higher Processor, 4 GB RAM, 250 GB Hard Disk

Software Requirements:

Windows 10 / Linux / macOS Operating System, Google Chrome / Mozilla Firefox / Microsoft Edge Browser, Test Management Tool (e.g., Excel, Jira)

Theory:

What is a Test Case?

A test case defines a specific condition, input, and expected result to verify a feature's correct operation. Each case describes how to test a particular function of the system. For Gmail login, test cases ensure that user authentication and related functionalities are properly implemented and secure.

Key Areas to Test in Gmail Login:

• User Authentication: Validation of email field (valid, invalid, blank), Validation of password field (correct, incorrect, blank), Login using different user accounts.

• Security Features: Google reCAPTCHA after repeated failed attempts, Proper session handling for "Stay signed in".

• Usability and Navigation: Page responsiveness across devices, Working of "Forgot Password," "Create Account," and "Privacy/Terms" links.

• Positive and Negative Testing: Positive - Correct credentials allow successful login; Negative - Wrong or empty inputs show proper error messages.

Importance of Testing Gmail Login:

• Ensures user account safety and secure access.

Confirms proper page redirection and error handling.

• Improves reliability and enhances the user experience.

Types of Test Cases:

• Functional Test Cases: Verify the core features like login and registration.

• Negative Test Cases: Test behavior with invalid or missing inputs.

• Boundary Test Cases: Check field length limits and input boundaries.

• Performance Test Cases: Measure system response time and load performance.

• Usability Test Cases: Ensure that navigation and layout are user-friendly.

• Security Test Cases: Validate data protection, authentication, and access control.

• Compatibility Test Cases: Test across various browsers, OS, and screen sizes.

• Integration Test Cases: Verify the flow between Gmail modules.

• Regression Test Cases: Ensure that updates don't break existing functionality.

• Acceptance Test Cases: Confirm that the login page fulfills all user and business requirements.

Conclusion:

This exercise improved my understanding of designing test cases for real-world web applications. By writing test cases for Gmail Login, I practiced identifying issues related to functionality, usability, and security. Proper documentation helps detect defects early, ensuring high reliability and better user satisfaction in the final application.