**LAB 1: Writing Test Case**

**Students do the steps below:**

1. Read the project introduction carefully.
2. Read and understand format of test case template ( Template\_Test Case.xls file)
3. Write test cases for graphic user interface to check layout of application
4. Write test cases for validation input
5. Write test case for date time checking algorithm

Here's a detailed guide for writing test cases based on the provided template in the **Template\_Test Case.xls** file:

**Steps to Write Test Cases**

**1. Read the Project Introduction**

* Ensure you thoroughly understand the scope, functionality, and requirements of the project. This will help in identifying the critical areas that need testing.

**2. Understand the Test Case Template**

* Open the **Template\_Test Case.xls** file and review its format. Typically, a test case template includes columns such as:
  + Test Case ID
  + Test Description
  + Preconditions
  + Test Steps
  + Expected Result
  + Actual Result
  + Status (Pass/Fail)
  + Comments

**3. Write Test Cases for GUI Layout**

* **Objective**: Ensure that the application's graphical user interface (GUI) layout is as per the design specifications.
* **Example Test Cases**:
  + **Test Case ID**: GUI\_001
    - **Description**: Verify that the application logo is displayed at the top-left corner.
    - **Preconditions**: Application is installed and launched.
    - **Test Steps**:
      1. Open the application.
      2. Observe the top-left corner of the main screen.
    - **Expected Result**: Application logo is displayed at the top-left corner.
    - **Actual Result**: [To be filled after testing]
    - **Status**: [Pass/Fail]
    - **Comments**: [Any additional information]
  + **Test Case ID**: GUI\_002
    - **Description**: Verify that the main menu is aligned horizontally at the top of the screen.
    - **Preconditions**: Application is installed and launched.
    - **Test Steps**:
      1. Open the application.
      2. Observe the main menu.
    - **Expected Result**: Main menu is aligned horizontally at the top of the screen.
    - **Actual Result**: [To be filled after testing]
    - **Status**: [Pass/Fail]
    - **Comments**: [Any additional information]

**4. Write Test Cases for Input Validation**

* **Objective**: Ensure that the application correctly handles invalid inputs and provides appropriate error messages.
* **Example Test Cases**:
  + **Test Case ID**: IV\_001
    - **Description**: Verify that the application displays an error message when the username field is left blank.
    - **Preconditions**: User is on the login screen.
    - **Test Steps**:
      1. Leave the username field blank.
      2. Enter a valid password.
      3. Click the "Login" button.
    - **Expected Result**: Error message "Username cannot be blank" is displayed.
    - **Actual Result**: [To be filled after testing]
    - **Status**: [Pass/Fail]
    - **Comments**: [Any additional information]
  + **Test Case ID**: IV\_002
    - **Description**: Verify that the application displays an error message when an invalid email format is entered.
    - **Preconditions**: User is on the registration screen.
    - **Test Steps**:
      1. Enter an invalid email format (e.g., "user@domain").
      2. Fill in other mandatory fields.
      3. Click the "Register" button.
    - **Expected Result**: Error message "Please enter a valid email address" is displayed.
    - **Actual Result**: [To be filled after testing]
    - **Status**: [Pass/Fail]
    - **Comments**: [Any additional information]

**5. Write Test Cases for Date and Time Checking Algorithm**

* **Objective**: Ensure that the application's date and time-related functions work correctly.
* **Example Test Cases**:
  + **Test Case ID**: DT\_001
    - **Description**: Verify that the application correctly validates a leap year date.
    - **Preconditions**: User is on the date input screen.
    - **Test Steps**:
      1. Enter the date "02/29/2020".
      2. Submit the date.
    - **Expected Result**: Date is accepted as valid.
    - **Actual Result**: [To be filled after testing]
    - **Status**: [Pass/Fail]
    - **Comments**: [Any additional information]
  + **Test Case ID**: DT\_002
    - **Description**: Verify that the application displays an error message for an invalid date (e.g., "02/30/2021").
    - **Preconditions**: User is on the date input screen.
    - **Test Steps**:
      1. Enter the date "02/30/2021".
      2. Submit the date.
    - **Expected Result**: Error message "Invalid date" is displayed.
    - **Actual Result**: [To be filled after testing]
    - **Status**: [Pass/Fail]
    - **Comments**: [Any additional information]

**Using the Template**

* Open the **Template\_Test Case.xls** file and fill in the relevant columns based on the examples provided above.
* Save and document each test case systematically.

Would you like assistance with any specific part of this process, or do you need help with creating specific test cases?