**Project URL**: <https://www.saucedemo.com/>

1. **Test Design and Writing**

* **Test Case Description**
* **Test Strategy**
* **Rationale**

**Test Case Description**

**Test Case: Login Page**

**Title:** Verify login functionality with valid credentials

**Description:** Ensure that a user with valid credentials can log into the application successfully.

**Preconditions:**

* The user has a valid username and password.
* The login page is accessible.

**Test Steps:**

1. Navigate to the login page.
2. Enter a valid username.
3. Enter a valid password.
4. Click the "Login" button.

**Expected Result:**

* The user is successfully logged in and redirected to the homepage or dashboard.
* A welcome message is displayed.

**Test Case: Order Checkout**

**Title:** Verify order checkout process with valid payment information

**Description:** Ensure that a user can complete an order checkout process using valid payment information.

**Preconditions:**

* The user is logged into the application.
* The user has items in their shopping cart.

**Test Steps:**

1. Navigate to the shopping cart page.
2. Review the items in the cart and proceed to checkout.
3. Enter valid shipping information.
4. Enter valid payment information.
5. Review the order summary.
6. Click the "Place Order" button.

**Expected Result:**

* The order is successfully placed.
* The user receives an order confirmation message.
* An order confirmation email is sent to the user.

**Test Strategy**

**Login Page**

**Objective:** Verify that the login functionality works correctly for all user scenarios, including valid and invalid credentials.

**Scope:**

* Functional testing to ensure the login page works as expected.
* Security testing to check for vulnerabilities like SQL injection and brute force attacks.
* Usability testing to ensure the login page is user-friendly.

**Test Types:**

* **Positive Testing:** Test with valid credentials.
* **Negative Testing:** Test with invalid credentials (incorrect username/password).
* **Boundary Testing:** Test with edge cases like maximum and minimum lengths of username and password.

**Order Checkout**

**Objective:** Verify that the order checkout process is smooth and reliable for users.

**Scope:**

* Functional testing to ensure the checkout process works from start to finish.
* Performance testing to ensure the checkout process can handle a high number of users.
* Usability testing to ensure the checkout process is user-friendly.

**Test Types:**

* **Positive Testing:** Test with valid payment and shipping information.
* **Negative Testing:** Test with invalid payment information.
* **Boundary Testing:** Test with edge cases like maximum and minimum order values.

**Rationale**

**Login Page**

**Why Test This?**

* The login page is the gateway to the application. A failure in the login functionality can prevent users from accessing the application, leading to user dissatisfaction and potential loss of business.

**Importance:**

* Ensuring the security of user credentials.
* Providing a smooth user experience.
* Compliance with security standards.

**Order Checkout**

**Why Test This?**

* The checkout process is critical for e-commerce applications. Any issues during checkout can lead to loss of sales and damage to the company's reputation.

**Importance:**

* Ensuring successful completion of transactions.
* Providing a seamless and secure user experience.
* Maintaining customer trust and satisfaction.