Automated Tests

1. Develop up to 5 well-designed automated test cases targeting the website's functionality. You're free to use any technology of your choosing, but please provide the rationale for your selection.
2. Include clear documentation for each test case, explaining
   - The specific scenario being tested.
   - The reason you chose to automate this particular test.

Rationale for the Selection of the Technology

Technology: Playwright JS/TS

I find the Playwright as a modern effective testing tool to use for Automation tests. With Playwright it can be done the multi-browser coverage, parallel execution, and use more reliable waiting techniques. It fits with today's dynamic web applications. With built-in debugging facility like tracing and video recording it saves hours we spent for the diagnosis. It makes end-to-end scenarios more realistic with device emulation. In short, Playwright is fast, stable, and future proof. Compared to older tools, playwright is easy to setup, integrates smoothly with continuous integration tools. Below, I would like to present more factors to choose Playwright over Selenium.

Comparison on Selenium vs. Playwright

Feature	Playwright	Selenium
Browser Support	Chromium, Firefox and WebKit can invoke simply within config file	Wide browser coverage, but the config is more complex
Auto Waiting	Built-in for elements	Manual waits often required
Test Runner	Has its own test runner	Required external test runners
Setup & Use	Quick Setup and Typescript support	Complex setup with many tools and older design patterns
Performance	Faster execution with direct browser bindings	Relies on WebDriver
Debugging	Trace viewer, screenshots, step replay	Requires 3rd-party tools
Best Use Case	Modern Web applications, cross-browser/device testing	Legacy systems, apps with existing selenium frameworks

The specific scenarios being tested:

- Sign Up Scenario – Verify that new users can sign up for the site.
    a. Go to the site: https://www.demoblaze.com/index.html
    b. Click on "Sign Up"
    c. Enter a username and password
    d. Click on "Sign Up" button
    e. Assert that the success alert is displayed.

Reason for Automation: "Sign Up" is a core test case for new users to the site. It is a repetitive process that needs to be checking often.

- Log In Scenario – Verify that already signed up users can log in to the site.
    a. Go to the site: https://www.demoblaze.com/index.html
    b. Click on "Log In"
    c. Enter valid credentials from an existing signed up user entries
    d. Click on "Log In" button
    e. Assert that the user's name appears on the homepage with the Welcome note

Reason for Automation: "Log In" is a core functionality; automating log in function can ensure that users can always access their accounts.

- Add Product to Cart Scenario – Verify that a user can add a product to the cart.
    a. Log in to the site with valid credentials: https://www.demoblaze.com/index.html
    b. Select a product and navigate to the product description page (e.g., "Samsung Galaxy S6"
    c. Click on "Add to Cart" button
    d. Assert that a confirmation alert appears with a success message.

Reason for Automation: As this is an e-commerce site adding items to cart is a critical functionality. Automating this scenario can always ensure that the function is reliable after UI changes.

- Delete item from Cart – Verify that a user can remove items from the cart.
    a. Log in to the site with valid credentials: https://www.demoblaze.com/index.html
    b. Select a product and add it to the cart.
    c. Navigate to the cart page.
    d. Click "Delete" next to the product.
    e. Assert that the cart is empty or the product is removed.

Reason to Automation: Removing items from the cart ensure cart management functions reliably after updates.

- Place an Order – Verify that a user can place an order successfully.
  a. Log in to the site with valid credentials: https://www.demoblaze.com/index.html
  b. Select a product and add it to the cart.
  c. Navigate to the cart and click on "Place Order" button.
  d. Fill in order details (name, country, city, card, month, year)
  e. Click on "Purchase" button.
  f. Assert that the confirmation modal shows order ID and amount.

Reason for Automation: Placing the order and checkout flow is business critical. Automating this ensures orders can always be placed without errors.