Writeup:-

Github link : https://github.com/akshansha9/JAVA-FSD.git

Title: Automated Testing of Lazy Loading Feature in Flipkart E-Commerce Platform

Introduction:
The course-end project involves automating the testing of a real-world web application, specifically focusing on a new feature in Flipkart—an e-commerce platform. The identified feature allows users to search for products within a specific category, presenting the results as a list of product items. To optimize performance, Flipkart has implemented lazy loading, displaying only a subset of products initially. To validate the functionality and performance of this feature, the Test Engineer is tasked with end-to-end testing.

Objective:
The primary goal is to ensure the smooth and efficient operation of the lazy loading feature in Flipkart's product search. The project involves various test scenarios, including assessing page load time, searching for a product, checking image loading, scrolling behavior, content refreshing frequency, image download timings, and cross-browser and screen resolution compatibility.

Detailed Scenario:

1. Navigate to Flipkart Homepage:
   - Open the Flipkart homepage (https://www.flipkart.com/).
   - Evaluate the time taken for the page to load using a performance test.

2. Search for a Product:
   - Search for a specific product, e.g., "iPhone 13," under the "Mobile" category.

3. Image Loading and Visibility:
   - Verify that images load and are visible only up to the screen height.
   - Confirm that lazy loading is implemented effectively.

4. Scroll Feature:
   - Confirm the presence of a scroll feature on the page.

5. Content Refreshing Frequency:

- Assess the frequency at which content is refreshed while scrolling.

6. Image Download Timing:
   - Verify that images are downloaded just before the user scrolls to their position.
   - Ensure that images are displayed promptly when they come into view.

7. Navigate to Bottom of the Page:
   - Verify that the application navigates to the bottom of the page.

8. Cross-Browser and Screen Resolution Compatibility:
   - Evaluate whether the application renders consistently across different browsers.
   - Test how the application responds to variations in screen resolutions.

Tools Required:
The following tools will be employed for automating the testing of the Flipkart lazy loading feature:

1. Selenium Library:
   - Selenium will be used for automating interactions with the web application, facilitating browser automation and testing.

2. Eclipse IDE:
   - Eclipse will serve as the integrated development environment for writing and managing the automation scripts.

3. TestNG Library:
   - TestNG will be utilized for organizing and executing test cases, providing annotations and assertions for effective testing.

4. Maven:
   - Maven will be used as a build automation tool to manage dependencies and streamline the project build process.