# Automate an E-Commerce Web Application

## Algorithm:

**Step 1 :** Create a class **FlipkartTest** with a private **WebDriver** variable called **driver**.

**Step 2** : In the **@BeforeMethod** setup method:

- Set the system property for Chrome driver executable (if using Chrome).
- Create a **ChromeOptions** instance and add arguments to start the browser maximized.
- Initialize the **driver** variable with a new **ChromeDriver** instance, passing the **ChromeOptions**.
- Set the implicit wait for the driver to 10 seconds.

**Step 3 :** Define test methods with **@Test** annotations:

- **testPageLoadTime()**: Load the Flipkart homepage and calculate the page load time.
- **testSearchProduct()**: Perform a search for "iPhone 13 Mobile" and print a message indicating the search is performed.
- **testImagesLoadedAndVisible()**: Search for "iPhone 13 Mobile," wait for images to load, and check if each image is visible within the screen height.
- **testScrollFeature()**: Load the homepage, scroll to the bottom, wait for content to load, and check if the page has a scroll feature.
- **testRefreshFrequency()**: Load the homepage, scroll to the bottom twice with a wait between, and check if the content was refreshed.

- **testLazyLoading()**: Load the homepage, scroll to trigger lazy loading of images, wait, and check if images are displayed on the page.
- **testScrollToBottom()**: Load the homepage, scroll to the bottom, and check if the page has scrolled to the bottom.
- **testDifferentBrowsersAndResolutions()**: Test the website with different screen resolutions and browsers (Edge).
- Open the website with default browser (Chrome) and screen resolution.
- Call **testWithScreenResolution(1366, 768)** and **testWithScreenResolution(1920, 1080)** to test with different resolutions.
- Call **testWithEdge()** to test with Microsoft Edge.

**Step 4 :** Implement the **testWithScreenResolution(int width, int height)** method:

- Set the browser window size to the specified screen resolution.
- Open the website with the specified resolution.
- Print the current screen resolution being tested.

**Step 5 :** Implement the **testWithEdge()** method:

- Open the website with Microsoft Edge.
- Check if the search box is displayed and print a message.
- Perform a search for "iPhone 13 Mobile" and perform further assertions or actions specific to Edge.

**Step 6 :** In the **@AfterMethod** teardown method:

- Close the browser after each test if the **driver** is not null.