Automate an E-Commerce Web Application

1. FlipkartTestChrome.java:

```
package com.demo;
import org.testng.annotations.AfterClass;
import org.testng.annotations.Test;
import org.testng.annotations.BeforeClass;
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import org.testng.annotations.Test;
import java.io.File;
import java.io.IOException;
import java.util.concurrent.TimeUnit;
import java.util.function.Function;
import org.apache.commons.io.FileUtils;
import org.openqa.selenium.By;
import org.openqa.selenium.Dimension;
import org.openqa.selenium.JavascriptExecutor;
import org.openqa.selenium.NoSuchElementException;
import org.openqa.selenium.OutputType;
import org.openqa.selenium.TakesScreenshot;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.chrome.ChromeDriver;
import org.openqa.selenium.support.ui.FluentWait;
import org.openqa.selenium.support.ui.Wait;
import org.testng.annotations.AfterClass;
import org.testng.annotations.BeforeClass;
import org.openqa.selenium.TakesScreenshot;

public class FlipkartTestChrome {
	WebDriver driver;
	@BeforeClass
	public void beforeClass() {
		System.setProperty("webdriver.chrome.driver",
"C:\\Users\\hp\\Downloads\\chromedriver_win32\\chromedriver.exe");
		driver = new ChromeDriver();
		driver.get("https://www.flipkart.com/");
		driver.manage().window().maximize();
	}
	@AfterClass
	public void afterClass() {
		driver = null;
	}
	@Test(priority = 1)
```

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	public void closeLogin() throws InterruptedException {
		try {
			System.out.println("\nChrome Browser Result:\n");
			System.out.println(driver.getTitle());
			driver.findElement(By.cssSelector("body > div._2Sn47c > div > div > 
button")).click();
			Thread.sleep(1000);
		} catch (NoSuchElementException e) {
			e.printStackTrace();
		}
		screenshot(driver,"closelogin");
	}
	@Test(priority = 2)

	public void scroll() throws InterruptedException {
		Thread.sleep(2000);
		JavascriptExecutor js = (JavascriptExecutor) driver;
		js.executeScript("window.scrollBy(0,document.body.scrollHeight)");
		System.out.println("\nNavigated to bottom of the page");
		Thread.sleep(2000);
		js.executeScript("window.scrollBy(0,-document.body.scrollHeight)", "");
		System.out.println("\nScroll Feature available");
		Thread.sleep(2000);
		screenshot(driver,"scroll");
	}
	@Test(priority = 3)

	public void searchProduct() throws InterruptedException {
		Thread.sleep(1000);
		driver.findElement(By.name("q")).sendKeys("iPhone 13");
		Thread.sleep(1000);
		By search = By.cssSelector(
				"#container > div > div._1kfTjk > div._1rH5Jn > div._2Xfa2_ > 
div._1cmsER > form > div > button > svg");
		driver.findElement(search).click();
		Thread.sleep(3000);
		By load = By.cssSelector(
				"#container > div > div._36fx1h._6t1WkM._3HqJxg > 
div._1YokD2._2GoDe3 > div:nth-child(2) > div:nth-child(9) > div > div");
		long start = System.currentTimeMillis();
		driver.findElement(load).click();
		long finish = System.currentTimeMillis();
		long totalTime = finish - start;
		System.out.println("\nTime to load page in millisecs - " + totalTime);
		screenshot(driver,"searchproduct");
	}
	@Test(priority = 4)
	public void loadImage() throws InterruptedException {
```

```
		String url =
"https://www.flipkart.com/apple-iphone-13-blue-256-gb/p/itmd68a015aa1e39?pid=MOBG6VF566ZTUVFR
&lid=LSTMOBG6VF566ZTUVFR2RQLVU&marketplace=FLIPKART&q=iPhone+13&store=tyy%2F4io&srn
o=s_1_8&otracker=search&otracker1=search&fm=organic&iid=1c0c7402-fe4f-4f45-9aa8-cc59dffe8503.M
OBG6VF566ZTUVFR.SEARCH&ppt=hp&ppn=homepage&ssid=i4t60bsv4g0000001665375424769&qH=
c3d519be0191fbf8";
		driver.get(url);
		Thread.sleep(3000);
		//driver.navigate().refresh();
		Wait<WebDriver> wait = new FluentWait<WebDriver>(driver).withTimeout(10,
TimeUnit.SECONDS)
				.pollingEvery(2,
TimeUnit.SECONDS).ignoring(NoSuchElementException.class);
		wait.until(new Function<WebDriver, WebElement>() {
			@Test
			public WebElement apply(WebDriver driver) {
				WebElement img = driver.findElement(By.xpath(

"//*[@id=\"container\"]/div/div[3]/div[1]/div[2]/div[9]/div[4]/div[3]/div/div/div/div[1]/img"));
				if (img.isDisplayed()) {
					System.out.println("\nImage Loaded");
					return img;
				} else {
					System.out.println("\nFluent Wait Fail!, Element Not Loaded
Yet");

					return null;
				}
			}
		});
		screenshot(driver,"pageLoad");
	}
	@Test(priority = 5)
	public void scrollFrequency() throws InterruptedException {
		Thread.sleep(2000);
		long start = System.currentTimeMillis();
		WebElement element = driver.findElement(By.cssSelector(
				"#container > div > div._2c7YLP.UtUXW0._6t1WkM._3HqJxg >
div._1YokD2._2GoDe3 > div._1YokD2._3Mn1Gg.col-8-12 > div._1YokD2._3Mn1Gg > div:nth-child(7) > div
> div:nth-child(3) > div > div > div:nth-child(1)"));
		((JavascriptExecutor) driver).executeScript("arguments[0].scrollIntoView(true);", element);
		long stop = System.currentTimeMillis();
		long totalTime = stop - start;
		System.out.println("\nScroll Frequency in millisecs - " + totalTime);
		screenshot(driver,"scrollfrequency");
	}
	@Test(priority = 6)

	public void downloadImages() throws InterruptedException {
		WebElement img = driver.findElement(By
```

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.xpath("//*[@id=\"container\"]/div/div[3]/div[1]/div[2]/div[9]/div[4]/div[3]/div/div/div/div[1]/img"));
                Boolean p = (Boolean) ((JavascriptExecutor) driver).executeScript("return
arguments[0].complete "
                                + "&& typeof arguments[0].naturalWidth != \"undefined\" " + "&&
arguments[0].naturalWidth > 0", img);
                if (p) {
                        System.out.println("\nImage present");
                } else {
                        System.out.println("\nImage not present");
                }
                screenshot(driver,"downloadImages");
        }
        @Test(priority = 7)

        public void screenResolution() throws InterruptedException {
                Thread.sleep(1000);
                Dimension dimension = new Dimension(720, 1080);
                driver.manage().window().setSize(dimension);
                Thread.sleep(3000);
                Dimension dimension1 = new Dimension(1280, 800);
                driver.manage().window().setSize(dimension1);
                Thread.sleep(3000);
                Dimension dimension2 = new Dimension(2256, 1504);
                driver.manage().window().setSize(dimension2);
                JavascriptExecutor js = (JavascriptExecutor) driver;
                int contentHeight = ((Number) js.executeScript("return window.innerHeight")).intValue();
                int contentWidth = ((Number) js.executeScript("return window.innerWidth")).intValue();
                System.out.println("\nHeight: " + contentHeight + " Width: " + contentWidth + "\n");
                screenshot(driver,"screenshotResolution");
        }

        public static void screenshot(WebDriver driver,String screenshotName){
                 TakesScreenshot ts = (TakesScreenshot)driver;
                 File scr = ts.getScreenshotAs(OutputType.FILE);
                 try {
                                 FileUtils.copyFile(scr, new File(screenshotName+".png"));
                                 System.out.println("Screenshot taken");
                         } catch (IOException e) {
                                 e.printStackTrace();
                         }
        }



}
```