

Software Testing - CA1

Question 1:

Code:

```
package com.rithik.cal;

import org.junit.Assert;
import org.openqa.selenium.By;
import org.openqa.selenium.Keys;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.chrome.ChromeDriver;
import org.openqa.selenium.chrome.ChromeOptions;

import io.github.bonigarcia.wdm.WebDriverManager;

public class Question1 {
    public static void main(String[] args) throws InterruptedException {
        // Setting up driver
        WebDriverManager.chromedriver().setup();
        ChromeOptions co = new ChromeOptions();
        co.addArguments("--remote-allow-origins=*");
        WebDriver driver = new ChromeDriver(co);

        String url =
"https://www.amazon.com/ap/signin?openid.pape.max_auth_age=0&openid.return_to=https%3A%2F%2Fwww.amazon.com%2F%3F_encoding%3DUTF8%26ref_%3Dnav_ya_sig_nin&openid.identity=http%3A%2F%2Fspecs.openid.net%2Fauth%2F2.0%2Fidentifier_select&openid.assoc_handle=usflex&openid.mode=checkid_setup&openid.claimed_id=http%3A%2F%2Fspecs.openid.net%2Fauth%2F2.0%2Fidentifier_select&openid.ns=http%3A%2F%2Fspecs.openid.net%2Fauth%2F2.0&";
        driver.get(url);

        driver.manage().window().maximize();

        WebElement em = driver.findElement(By.id("ap_email"));
        em.sendKeys("rithukuza@gmail.com", Keys.ENTER);
    }
}
```

```

WebElement pw = driver.findElement(By.id("ap_password"));
pw.sendKeys("rithukuza", Keys.ENTER);

// Search a product
WebElement srch =
driver.findElement(By.id("twotabsearchtextbox"));
srch.sendKeys("cloth", Keys.ENTER);

// Click laptop
WebElement cloth = driver.findElement(By.xpath(
    "//*[@id=\"search\"]/div[1]/div[1]/div/span[1]/div[1]/div[2]/div/div/div/div/div/div/div[3]/div[2]/h2/a"));
cloth.click();

// Add to cart
WebElement addToCart = driver.findElement(By.id("add-to-cart-button"));
addToCart.click();

// Wait
Thread.sleep(3000);

// Verify added
WebElement added = driver.findElement(By.id("nav-cart-count"));
Assert.assertNotEquals(added.getText(), "0");
System.out.println("* User can add a product by clicking on Add to Cart button");

WebElement open = driver.findElement(By.xpath("//*[@id=\"sw-gtc\"]/span/a"));
open.click();

// Take price
String acPrice = driver
    .findElement(By.xpath(
        "//*[@id=\"sc-subtotal-amount-activecart\"]/span"))
    .getText();

// Delete verify
WebElement deleteButton =
    driver.findElement(By.xpath("//*[@id=\"sc-active-C786292ce-7473-4968-8fd0-a45b402154e6\"]/div[4]/div/div[3]/div[1]/span[2]/span/input"));

```

```
        Assert.assertTrue(deleteButton.isEnabled());
        System.out.println("* User can remove a product by clicking on
Remove button");

        // Update verify
        WebElement update = driver.findElement(By.id("a-autoid-0-
announce"));
        Assert.assertTrue(update.isEnabled());
        System.out.println("* User can update a product by clicking on
Update button");

        // Checkout
        WebElement checkout = driver.findElement(By.xpath("//*[@id=\"sc-
buy-box-ptc-button\"]/span/input"));
        checkout.click();

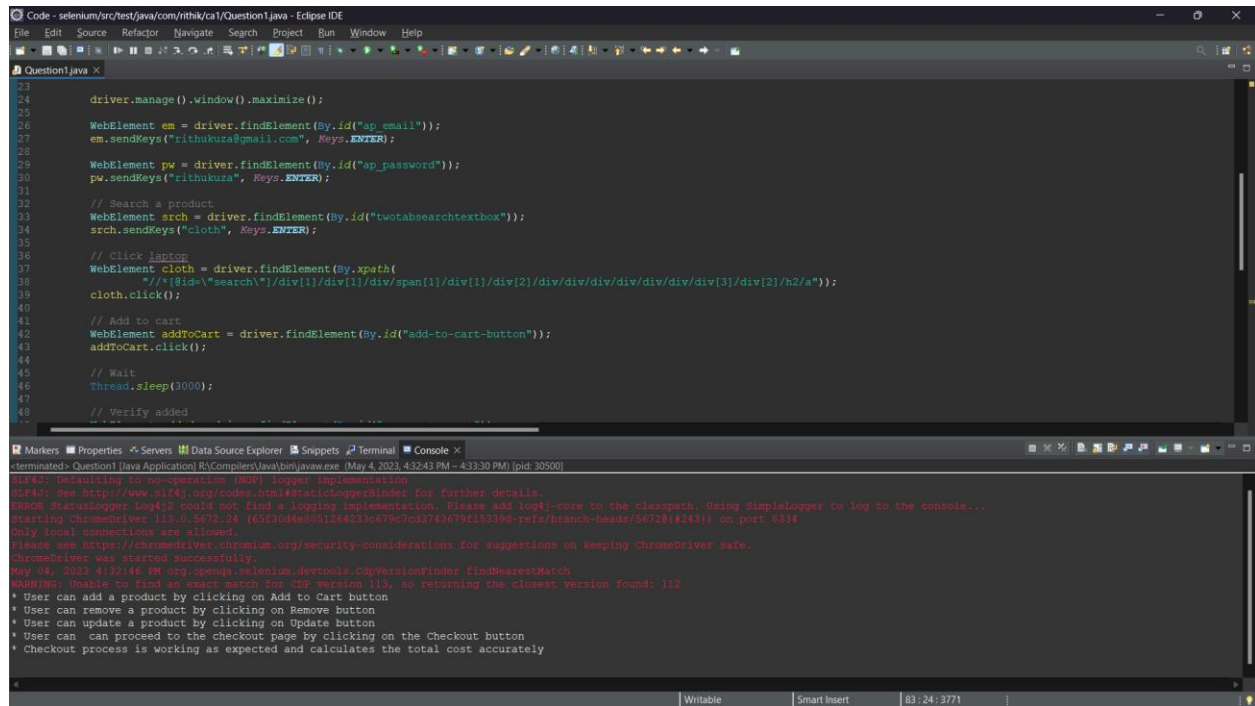
        Assert.assertEquals(driver.getCurrentUrl(),
"https://www.amazon.com/gp/buy/payselect/handlers/display.html?_from=cheet
ah");

        System.out.println("* User can  can proceed to the checkout page
by clicking on the Checkout button");

        System.out.println("* Checkout process is working as expected and
calculates the total cost accurately");

        driver.quit();
    }
}
```

Screenshot:



The screenshot displays the Eclipse IDE interface. The main editor window shows a Java file named `Question1.java` with Selenium WebDriver code. The code performs the following actions: maximizes the browser window, logs in with email `rithukuza@gmail.com` and password `rithukuza`, searches for a product named "cloth", clicks on a laptop, adds it to the cart, and waits for 3000ms. The IDE's bottom panel contains a console window with the following output:

```
terminated> Question1 [Java Application] R:\Compilers\javabin\javaw.exe (May 4, 2023 4:32:43 PM - 4:33:30 PM) [pid: 30500]
SLF4J: Defaulting to no-operation (NOP) logger implementation
SLF4J: See http://www.slf4j.org/codes.html#staticLoggerBinder for further details.
ERROR StatusLogger log4j-2 could not find a logging implementation. Please add log4j-core to the classpath. Using SimpleLogger to log to the console...
Starting ChromeDriver 113.0.5672.24 (65f3044e051264233c679c7c3743679f152193-refs/branch-heads/56728(#243)) on port 8334
Only local connections are allowed.
Please see https://chromedriver.chromium.org/security-considerations for suggestions on keeping ChromeDriver safe.
ChromeDriver was started successfully.
May 04, 2023 4:32:46 PM org.openqa.selenium.devtools.CdpVersionFinder findNearestMatch
WARNING: Unable to find an exact match for CDP version 113, so returning the closest version found: 112
* User can add a product by clicking on Add to Cart button
* User can remove a product by clicking on Remove button
* User can update a product by clicking on Update button
* User can proceed to the checkout page by clicking on the Checkout button
* Checkout process is working as expected and calculates the total cost accurately
```

The status bar at the bottom indicates the file is writable, smart insert is enabled, and the cursor is at line 83, column 24, character 3771.

Question 2:

Code:

```
package com.rithik.cal;

import java.util.List;

import org.junit.Assert;
import org.openqa.selenium.By;
import org.openqa.selenium.JavascriptExecutor;
import org.openqa.selenium.Keys;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.chrome.ChromeDriver;
import org.openqa.selenium.chrome.ChromeOptions;

import io.github.bonigarcia.wdm.WebDriverManager;

public class Question2 {
    public static void main(String[] args) throws InterruptedException {
        // Setting up driver
        WebDriverManager.chromedriver().setup();
        ChromeOptions co = new ChromeOptions();
        co.addArguments("--remote-allow-origins=*");
        WebDriver driver = new ChromeDriver(co);

        String url = "https://www.amazon.com/";
        driver.get(url);

        driver.manage().window().maximize();

        // Search a product
        WebElement srch =
driver.findElement(By.id("twotabsearchtextbox"));
        srch.sendKeys("laptop", Keys.ENTER);

        // List
        List<WebElement> li = driver
            .findElements(By.xpath("//h2[@class=\"a-size-mini a-spacing-none a-color-base s-line-clamp-2\"]"));

        // Verify if results are displayed
    }
}
```

```
Assert.assertNotEquals(li.size(), 0);
System.out.println("* Relevant Products are displayed");

System.out.println("* List of 5 Products : ");
for (int i = 0; i < 5; i++)
    System.out.println((i + 1) + " " + li.get(i).getText());

// Price filter
WebElement pricefil = driver.findElement(By.id("p_36-title"));
Assert.assertTrue(pricefil.isDisplayed());
System.out.println("* Price filter is enabled");

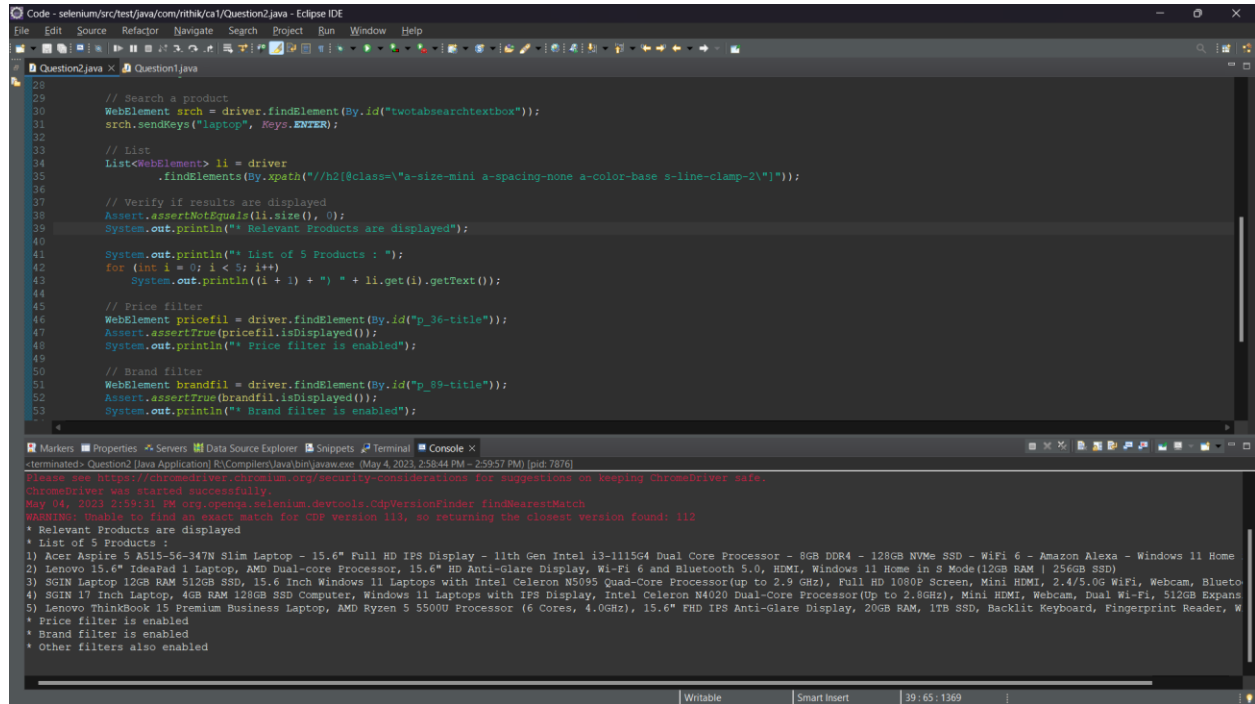
// Brand filter
WebElement brandfil = driver.findElement(By.id("p_89-title"));
Assert.assertTrue(brandfil.isDisplayed());
System.out.println("* Brand filter is enabled");

JavascriptExecutor js = (JavascriptExecutor) driver;
js.executeScript("window.scrollTo(0, 500)");

// Brand filter
WebElement otherfil = driver.findElement(By.id("filters"));
Assert.assertTrue(otherfil.isDisplayed());
System.out.println("* Other filters also enabled");

// Close the browser
driver.quit();
}
}
```

Screenshot:



The screenshot displays the Eclipse IDE interface. The main editor window shows a Java file named `Question2.java` with the following code:

```
28 // Search a product
29
30 WebElement srch = driver.findElement(By.id("twotabsearchtextbox"));
31 srch.sendKeys("laptop", Keys.ENTER);
32
33 // List
34 List

The bottom of the IDE shows the Console tab with the following output:



```
terminated: Question2 [Java Application] [3 Compiler] java/bin/javac.exe (May 4, 2023 2:58:44 PM - 2:59:57 PM) [pid: 7876]
Please see https://chromedriver.chromium.org/security-considerations for suggestions on keeping ChromeDriver safe.
ChromeDriver was started successfully.
May 04, 2023 2:59:31 PM org.openqa.selenium.devtools.CdpVersionFinder findNearestMatch
WARNING: Unable to find an exact match for CDP version 113, so returning the closest version found: 112
* Relevant Products are displayed
* List of 5 Products :
1) Acer Aspire 5 A515-56-347N Slim Laptop - 15.6" Full HD IPS Display - 11th Gen Intel i3-1115G4 Dual Core Processor - 8GB DDR4 - 128GB NVMe SSD - WiFi 6 - Amazon Alexa - Windows 11 Home
2) Lenovo 15.6" IdeaPad 1 Laptop, AMD Dual-core Processor, 15.6" HD Anti-Glare Display, Wi-Fi 6 and Bluetooth 5.0, HDMI, Windows 11 Home in S Mode(12GB RAM | 256GB SSD)
3) SGIN Laptop 12GB RAM 512GB SSD, 15.6 Inch Windows 11 Laptops with Intel Celeron N5095 Quad-Core Processor(up to 2.9 GHz), Full HD 1080P Screen, Mini HDMI, 2.4/5.0G WiFi, Webcam, Bluet
4) SGIN 17 Inch Laptop, 4GB RAM 128GB SSD Computer, Windows 11 Laptops with IPS Display, Intel Celeron N4020 Dual-Core Processor (Up to 2.8GHz), Mini HDMI, Webcam, Dual Wi-Fi, 512GB Expans
5) Lenovo ThinkBook 15 Premium Business Laptop, AMD Ryzen 5 5500U Processor (6 Cores, 4.0GHz), 15.6" FHD IPS Anti-Glare Display, 20GB RAM, 1TB SSD, Backlit Keyboard, Fingerprint Reader, W
* Price filter is enabled
* Brand filter is enabled
* Other filters also enabled
```



The status bar at the bottom indicates the file is Writable, Smart Insert is active, and the time is 39:65:1369.


```

Question 3:

Code:

```
package com.rithik.cal;

import org.junit.Assert;
import org.openqa.selenium.By;
import org.openqa.selenium.Keys;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.chrome.ChromeDriver;
import org.openqa.selenium.chrome.ChromeOptions;

import io.github.bonigarcia.wdm.WebDriverManager;

public class Question3 {
    public static void main(String[] args) throws InterruptedException {
        // Setting up driver
        WebDriverManager.chromedriver().setup();
        ChromeOptions co = new ChromeOptions();
        co.addArguments("--remote-allow-origins=*");
        WebDriver driver = new ChromeDriver(co);

        String url =
"https://www.amazon.com/ap/signin?openid.pape.max_auth_age=0&openid.return_to=https%3A%2F%2Fwww.amazon.com%2F%3F_encoding%3DUTF8%26ref_%3Dnav_ya_signin&openid.identity=http%3A%2F%2Fspecs.openid.net%2Fauth%2F2.0%2Fidentifier_select&openid.assoc_handle=usflex&openid.mode=checkid_setup&openid.claimed_id=http%3A%2F%2Fspecs.openid.net%2Fauth%2F2.0%2Fidentifier_select&openid.ns=http%3A%2F%2Fspecs.openid.net%2Fauth%2F2.0&";
        driver.get(url);

        driver.manage().window().maximize();

        WebElement em = driver.findElement(By.id("ap_email"));
        em.sendKeys("rithukuza@gmail.com", Keys.ENTER);

        WebElement pw = driver.findElement(By.id("ap_password"));
        pw.sendKeys("rithukuza", Keys.ENTER);

        WebElement klik = driver.findElement(By.xpath("//*[@id=\"nav-link-accountList\"]"));
    }
}
```

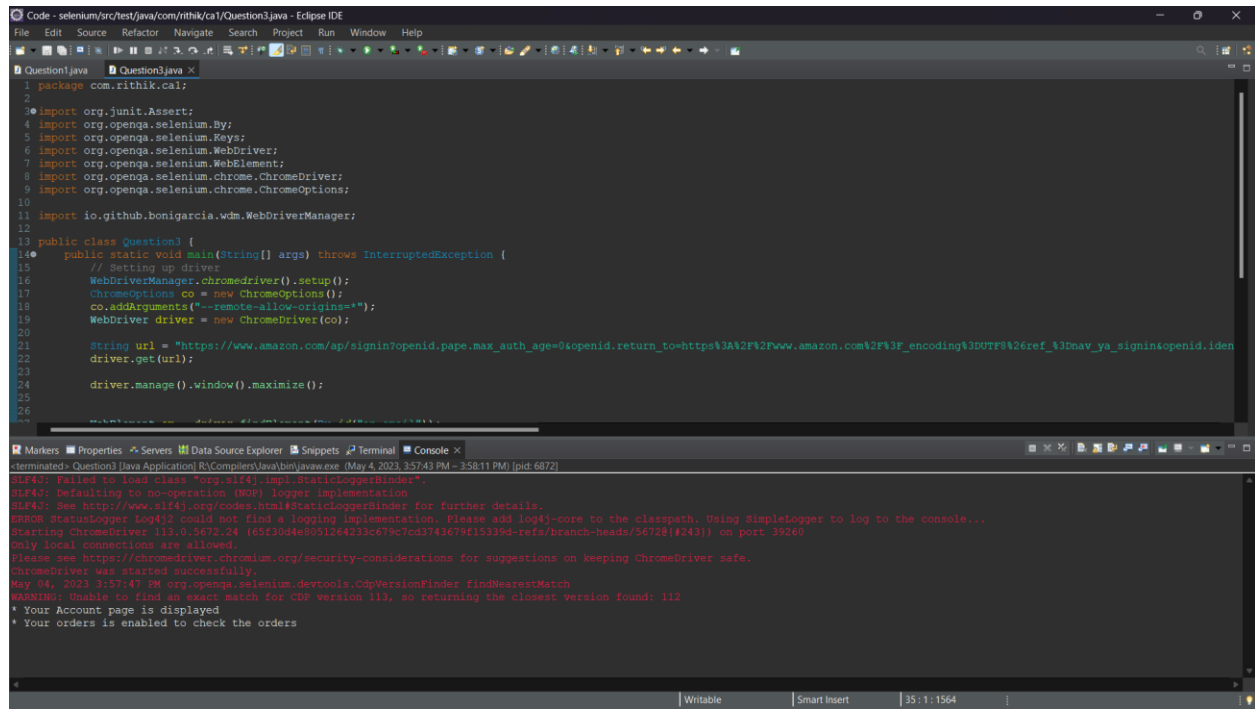


```
        clik.click();

        Assert.assertEquals(driver.getCurrentUrl(),
"https://www.amazon.com/gp/css/homepage.html?ref_=nav_youraccount_btn");
        System.out.println("* Your Account page is displayed");

        WebElement yourOrders = driver
                .findElement(By.xpath("//*[@id=\"a-
page\"]/div[2]/div/div[2]/div[1]/a/div/div/div/div[2]/h2"));
        Assert.assertTrue(yourOrders.isDisplayed());
        System.out.println("* Your orders is enabled to check the
orders");
    }
}
```

Screenshot:



The screenshot displays the Eclipse IDE interface. The main editor window shows the source code of a Java class named `Question3` in the package `com.rithik.cal`. The code imports various Selenium and WebDriver classes and uses `io.github.bonigarcia.wdm.WebDriverManager` to manage the ChromeDriver. The `main` method sets up the driver, adds a remote-allow-origins argument, and navigates to a specific URL on Amazon.

```
1 package com.rithik.cal;
2
3 import org.junit.Assert;
4 import org.openqa.selenium.By;
5 import org.openqa.selenium.Keys;
6 import org.openqa.selenium.WebDriver;
7 import org.openqa.selenium.WebElement;
8 import org.openqa.selenium.chrome.ChromeDriver;
9 import org.openqa.selenium.chrome.ChromeOptions;
10
11 import io.github.bonigarcia.wdm.WebDriverManager;
12
13 public class Question3 {
14     public static void main(String[] args) throws InterruptedException {
15         // Setting up driver
16         WebDriverManager.chromedriver().setup();
17         ChromeOptions co = new ChromeOptions();
18         co.addArguments("--remote-allow-origins=*");
19         WebDriver driver = new ChromeDriver(co);
20
21         String url = "https://www.amazon.com/ap/signin?openid.pape_max_auth_age=0&openid.return_to=https%3A%2F%2Fwww.amazon.com%2F%3F_encoding%3DUTF8%26ref%3Dnav_ya_signin&openid.iden";
22         driver.get(url);
23
24         driver.manage().window().maximize();
25
26     }
27 }
```

The console output at the bottom shows the execution of the program. It includes messages from SLF4J, Selenium, and WebDriverManager. A warning indicates that the closest version of ChromeDriver found is 112, while the code expects version 113. The final output shows that the account page is displayed and orders are enabled for checking.

```
<terminated> Question3 [Java Application] R:\Compilers\Java\bin\javaw.exe (May 4, 2023 3:57:43 PM - 3:58:11 PM) [pid: 6872]
SLF4J: Failed to load class "org.slf4j.impl.StaticLoggerBinder".
SLF4J: Defaulting to no-operation (NOP) logger implementation
SLF4J: See http://www.slf4j.org/codes.html#StaticLoggerBinder for further details.
ERROR: StatusLogger Log4j2 could not find a logging implementation. Please add log4j-core to the classpath. Using SimpleLogger to log to the console...
Starting ChromeDriver 113.0.5672.24 (65f3094e8051264233c679c7cd2743679f15339d-refs/branch-heads/56728(4243)) on port 39260
Only local connections are allowed.
Please see https://chromedriver.chromium.org/security-considerations for suggestions on keeping ChromeDriver safe.
ChromeDriver was started successfully.
May 04, 2023 3:57:43 PM org.openqa.selenium.devtools.CdpVersionFinder findNearestMatch
WARNING: Unable to find an exact match for CDP version 113, so returning the closest version found: 112
* Your Account page is displayed
* Your orders is enabled to check the orders
```