ASSIGNMENT TESTING

Q1. Test any website and write the script for finding elements by including all locators.

o By.className

o By.cssSelector

o By.id

o By.linkText

o By.name

o By.partialLinkText

o By.tagName

o By.xpath

Solution:

```java
package testingAssignment;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeDriver;
import org.openqa.selenium.*;
public class Question1 {
public static void main(String[] args) {
// declaration and instantiation of objects/variables
System.setProperty("webdriver.chrome.driver","C:\\Users\\sneha\\OneDrive\\D
esktop\\seljars\\chromedriver-win64\\chromedriver-
win64\\chromedriver.exe");
WebDriver driver = new ChromeDriver();

String baseUrl = "http://demo.guru99.com/test/login.html";
driver.get(baseUrl);

driver.findElement(By.id("email")).sendKeys("abcd@gmail.com");
System.out.println("Test by Id locator");

driver.findElement(By.name("passwd")).sendKeys("abcdefghijkl");
System.out.println("Test by name locator");

driver.findElement(By.linkText("Demo Site"));
System.out.println("Test by link text locator");

driver.findElement(By.tagName("a"));
System.out.println("Test by tag name locator");

driver.findElement(By.className("page-subheading"));
System.out.println("Test by class name locator");

driver.findElement(By.partialLinkText("password?"));
System.out.println("Test by partial link text locator");

driver.findElement(By.cssSelector("#email"));
System.out.println("Test by css selector locator");

driver.findElement(By.xpath("//*[@id=\"login_form\"]/h3"));
System.out.println("Test by xpath locator");
```
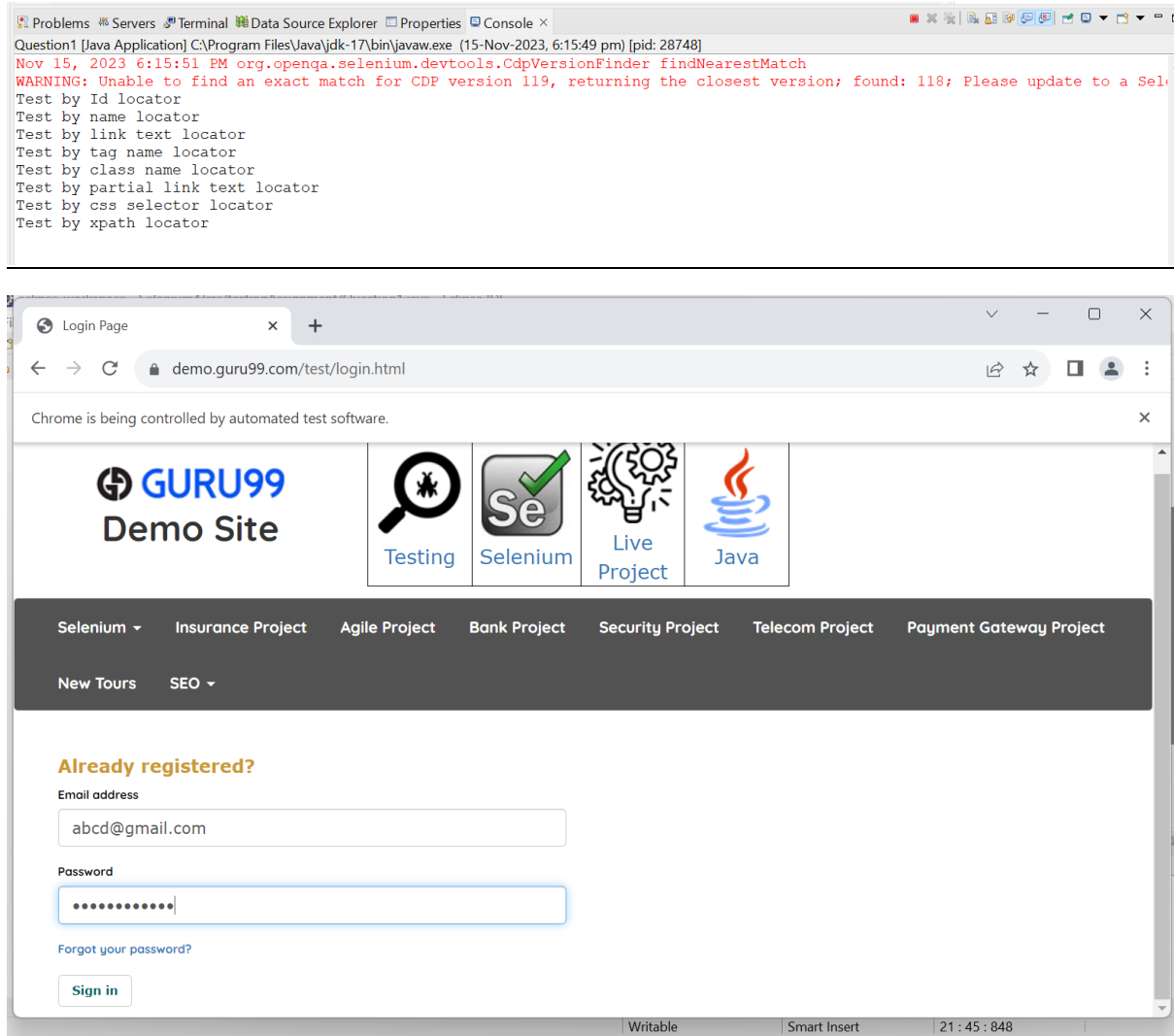
```
//driver.close();

}}
```

Output:

Q2. Test any website and write the script for that involves keyboard actions dragAndDrop(source, target), keyDown(modifier_key), keyUp(modifier_key), moveToElement(toElement), release(),sendKeys(onElement, charsequence).
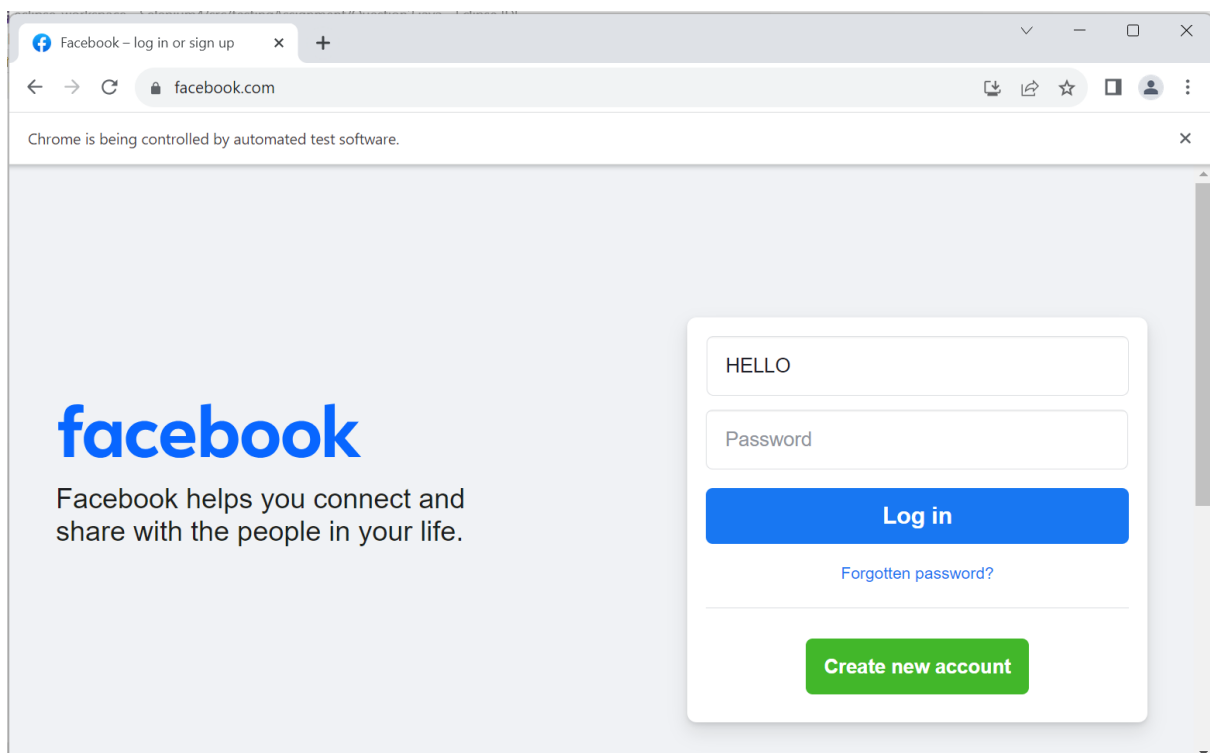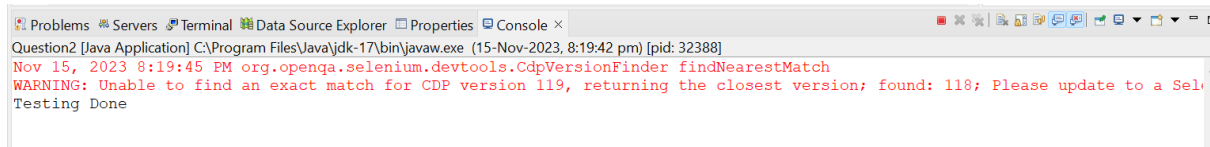
Solution:

```java
package testingAssignment;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeDriver;
import org.openqa.selenium.*;
import org.openqa.selenium.interactions.Action;
import org.openqa.selenium.interactions.Actions;
public class Question2 {
public static void main(String[] args) {
String baseUrl = "http://www.facebook.com/";
```

```java
System.setProperty("webdriver.chrome.driver","C:\\Users\\sneha\\OneDrive\\D
esktop\\seljars\\chromedriver-win64\\chromedriver-
win64\\chromedriver.exe");
WebDriver driver = new ChromeDriver();
driver.get(baseUrl);
WebElement txtUsername = driver.findElement(By.id("email"));
WebElement targetElement = driver.findElement(By.id("reg_pages_msg"));
Actions builder = new Actions(driver);
Action seriesOfActions = builder
.dragAndDrop(txtUsername, targetElement)
.release()
.moveToElement(txtUsername)
.click()
.keyDown(txtUsername, Keys.SHIFT)
.sendKeys(txtUsername, "hello")
.keyUp(txtUsername, Keys.SHIFT)
.doubleClick(txtUsername)
.contextClick()
.build();
seriesOfActions.perform();
System.out.println("Testing Done");
//driver.close();
}
}
```

Output:

Q3. Test any website and write the script for testing textbox, dropdown,checkbox and radio button for the registration form.

Solution:

Testing of testbox:

```java
package day1;

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.chrome.ChromeDriver;

import org.openqa.selenium.*;

public class ThirdScript {

public static void main(String[] args) {

// declaration and instantiation of objects/variables

System.setProperty("webdriver.chrome.driver","C:\\Users\\sneha\\OneDrive\\Desktop\\seljars\\chromedriver-win64\\chromedriver-win64\\chromedriver.exe");

WebDriver driver = new ChromeDriver();

String baseUrl = "http://demo.guru99.com/test/login.html";

driver.get(baseUrl);

// Get the WebElement corresponding to the Email Address(TextField)

WebElement email = driver.findElement(By.id("email"));

// Get the WebElement corresponding to the Password Field

WebElement password = driver.findElement(By.name("passwd"));

email.sendKeys("abcd@gmail.com");

password.sendKeys("abcdefghlkjl");

System.out.println("Text Field Set");


// Deleting values in the text box

email.clear();

password.clear();

System.out.println("Text Field Cleared");

// Find the submit button

WebElement login = driver.findElement(By.id("SubmitLogin"));


// Using click method to submit form
```

```
email.sendKeys("abcd@gmail.com");

password.sendKeys("abcdefghlkjl");

login.click();

System.out.println("Login Done with Click");

driver.close();

} }
```

Testing of dropdown:

```
package day1;

import java.util.concurrent.TimeUnit;

import java.util.Date;

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.chrome.ChromeDriver;

import org.openqa.selenium.*;

import org.openqa.selenium.support.ui.Select;

public class FifthScript {

public static void main(String[] args) throws InterruptedException {
System.setProperty("webdriver.chrome.driver","C:\\Users\\sneha\\OneDrive\\Desktop\\seljars\\chr
omedriver-win64\\chromedriver-win64\\chromedriver.exe");

String baseURL = "http://demo.guru99.com/test/newtours/register.php";

WebDriver driver = new ChromeDriver();

driver.get(baseURL);

Select drpCountry = new Select(driver.findElement(By.name("country")));

drpCountry.selectByVisibleText("ANTARCTICA");

System.out.println("country selected ANTARCTICA");

Thread.sleep(3000);

//Selecting Items in a Multiple SELECT elements

drpCountry.selectByIndex(1);

Thread.sleep(3000);

System.out.println("country selected ALGERIA");

drpCountry.selectByValue("INDIA");

System.out.println("country selected INDIA");
```

```java
driver.close();

}

}
```

Testing of radio button and check box:

```java
package testingAssignment;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeDriver;
import org.openqa.selenium.*;
public class Question3 {
public static void main(String[] args) {


System.setProperty("webdriver.chrome.driver","C:\\Users\\sneha\\OneDrive\\D
esktop\\seljars\\chromedriver-win64\\chromedriver-
win64\\chromedriver.exe");
WebDriver driver = new ChromeDriver();
driver.get("http://demo.guru99.com/test/radio.html");
WebElement  radio1 = driver.findElement(By.id("vfb-7-1"));
WebElement radio2 = driver.findElement(By.id("vfb-7-2"));
//Radio Button1 is selected
radio1.click();
System.out.println("Radio Button Option 1 Selected");

//Radio Button1 is de-selected and Radio Button2 is selected
radio2.click();
System.out.println("Radio Button Option 2 Selected");
// Selecting CheckBox
WebElement option1 = driver.findElement(By.id("vfb-6-0"));
// This will Toggle the Check box
option1.click();
// Check whether the Check box is toggled on
if (option1.isSelected()) {
System.out.println("Checkbox is Toggled On");
} else {
System.out.println("Checkbox is Toggled Off");
}
option1.click();
//Check whether the Check box is toggled off
if (option1.isSelected()) {
System.out.println("Checkbox is Toggled On");
} else {
System.out.println("Checkbox is Toggled Off");
}

driver.close();
}}
```
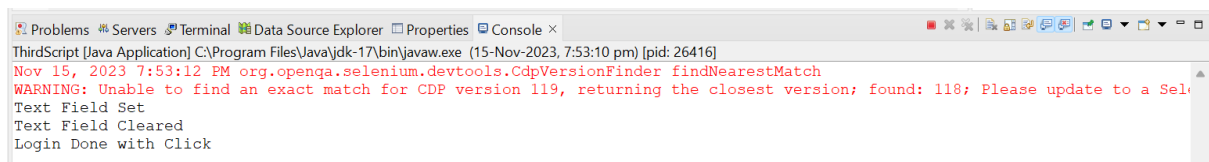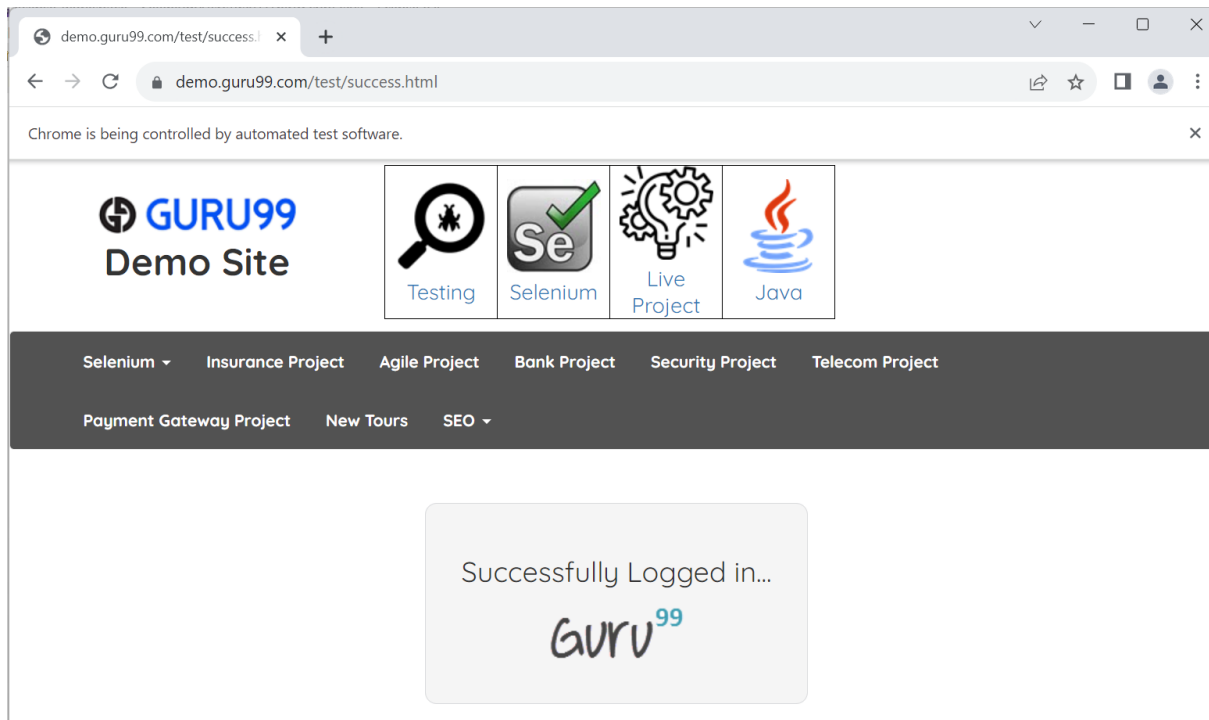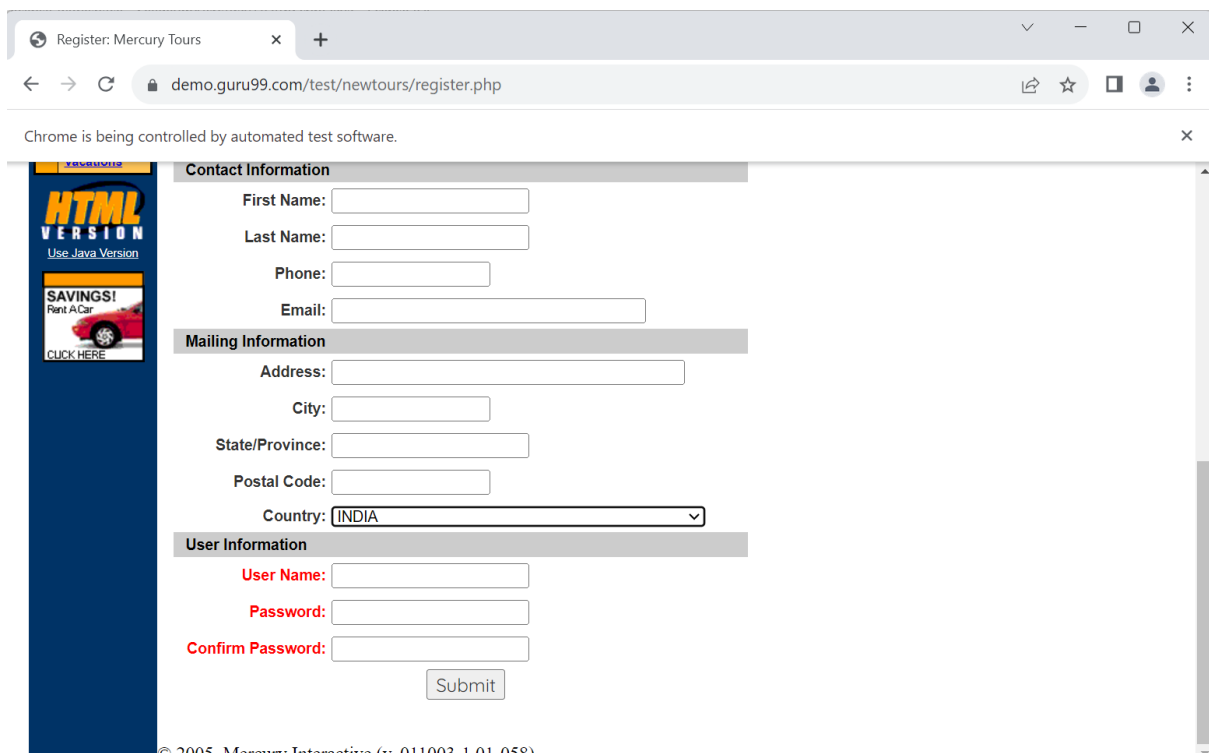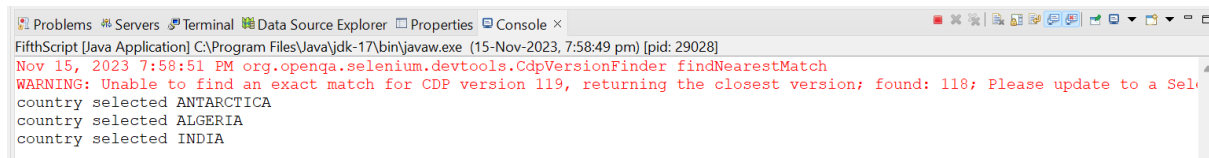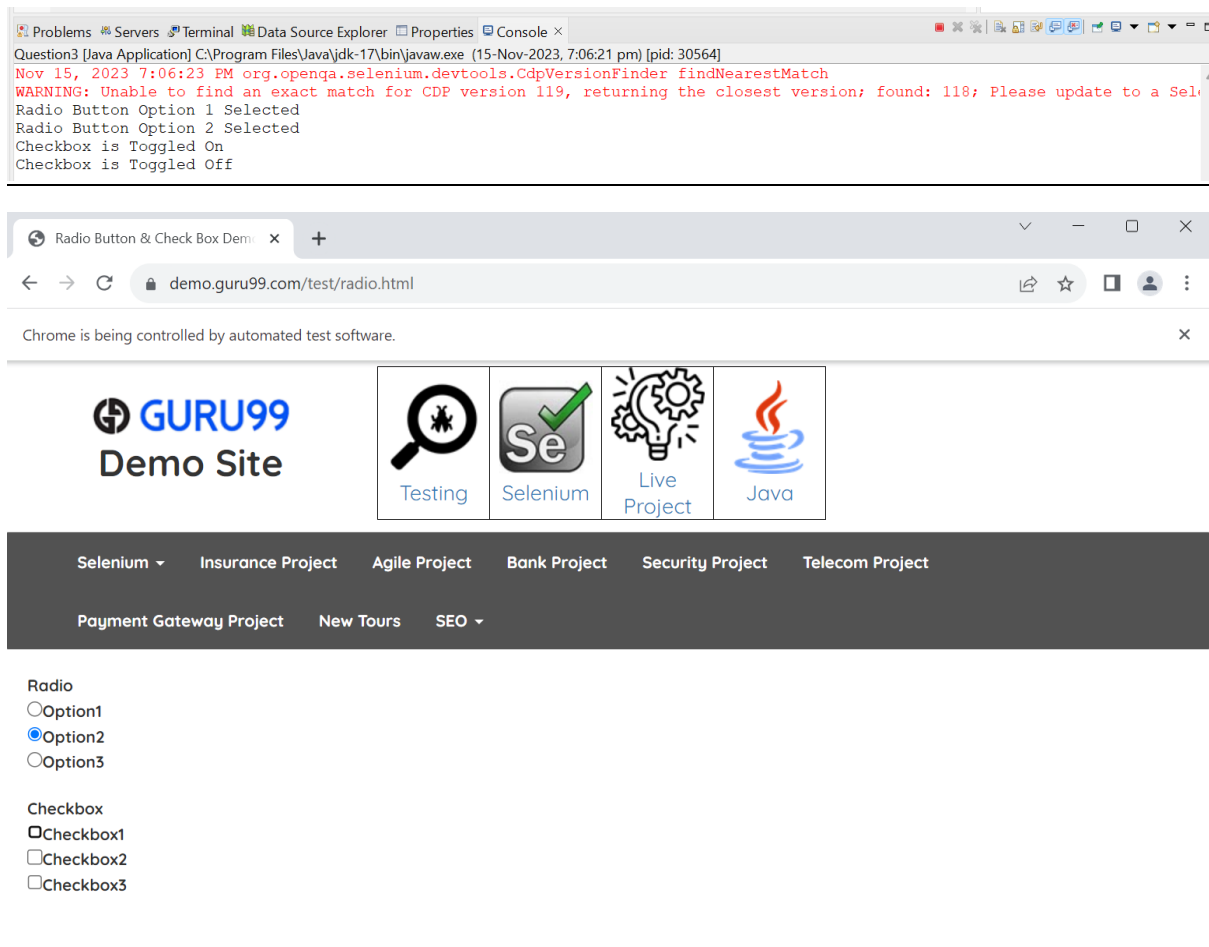
Output:

Textbox Output:

Dropbox Output:

Radio button and Checkbox Output:

```
Problems  Servers  Terminal  Data Source Explorer  Properties  Console ×
Question3 [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe  (15-Nov-2023, 7:06:21 pm) [pid: 30564]
Nov 15, 2023 7:06:23 PM org.openqa.selenium.devtools.CdpVersionFinder findNearestMatch
WARNING: Unable to find an exact match for CDP version 119, returning the closest version; found: 118; Please update to a Sele
Radio Button Option 1 Selected
Radio Button Option 2 Selected
Checkbox is Toggled On
Checkbox is Toggled Off
```

Q4. What is meant by XPath in Selenium. Explain XPath Absolute and XPath Relative.

Answer:

XPath

XPath is defined as XML path. It is a syntax or language for finding any element on the web page using the XML path expression. XPath is used to find the location of any element on a webpage using HTML DOM structure.

XPath in Selenium is a powerful technique used to traverse and interact with the HTML structure of a web page. It provides a standardized way to navigate through both HTML and XML documents, allowing testers to precisely locate elements for automation purposes. This makes XPath an invaluable tool for writing robust and adaptable automation scripts.

Syntax for XPath

XPath contains the path of the element situated on the web page. The standard syntax for creating XPath is as follows:

XPath=//tagname[@attribute='value']

- // : Select the current node.
- Tagname: Tagname of the particular node.
- @: Select attribute.

- Attribute: Attribute the name of the node.
- Value: Value of the attribute.

There are two types of XPath:

- Absolute XPath
- Relative XPath

Absolute XPath

Absolute Xpath is the simplest form of XPath in Selenium. It starts with a single slash '/' and provides the absolute path of an element in the entire DOM.

However, even though it is simple, the biggest disadvantage of using absolute XPath is that they are very vulnerable to any changes in the DOM structure and, as a result, can bring a lot of automation failures.

Relative XPath

In the case of relative XPath in Selenium, the XPath expression starts from the middle of the DOM structure. It is represented by a double slash '//' denoting the current node.

It is always preferred over an absolute XPath as it is not a complete path from the root element.

Q5. Demonstrate explicit and Implicit waits via a script.

Solution:

Explicit wait

package day1;

import java.util.concurrent.TimeUnit;

import java.util.Date;

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.chrome.ChromeDriver;

import org.openqa.selenium.*;

import org.openqa.selenium.support.ui.Select;

public class FifthScript {

public static void main(String[] args) throws InterruptedException {
System.setProperty("webdriver.chrome.driver","C:\\Users\\sneha\\OneDrive\\Desktop\\seljars\\chromedriver-win64\\chromedriver-win64\\chromedriver.exe");

String baseURL = "http://demo.guru99.com/test/newtours/register.php";

WebDriver driver = new ChromeDriver();

driver.get(baseURL);

Select drpCountry = new Select(driver.findElement(By.name("country")));

drpCountry.selectByVisibleText("ANTARCTICA");

System.out.println("country selected ANTARCTICA");

Thread.sleep(3000);

//Selecting Items in a Multiple SELECT elements

drpCountry.selectByIndex(1);

Thread.sleep(3000);

System.out.println("country selected ALGERIA");

drpCountry.selectByValue("INDIA");

System.out.println("country selected INDIA");

//driver.close();

}

}

Implicit wait:

```
package testingAssignment;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.chrome.ChromeDriver;

import java.util.concurrent.TimeUnit;

public class Question5 {

    public static void main(String[] args) throws InterruptedException{
        // Set the path to the ChromeDriver executable
        System.setProperty("webdriver.chrome.driver",
"C:\\Users\\sneha\\OneDrive\\Desktop\\seljars\\chromedriver-
win64\\chromedriver-win64\\chromedriver.exe");

        // Initialize the WebDriver with an implicit wait of 10 seconds
        WebDriver driver = new ChromeDriver();
        driver.manage().timeouts().implicitlyWait(10, TimeUnit.SECONDS);

        // Open a webpage
        driver.get("http://demo.guru99.com/test/newtours/register.php");

        // Find an element using implicit wait
        WebElement exampleElement = driver.findElement(By.name("country"));

        // Perform actions on the element
        System.out.println("Element Text: " + exampleElement.getText());

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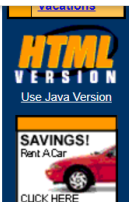
```
        }
}
```

Output:

Explicit wait:

Implicit wait:

Q6. With the help of code snippets, explain how we can create right-click and mouse hover actions in Selenium.

Solution:

Right-click action:

```java
package testingAssignment;

import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.chrome.ChromeDriver;
import org.openqa.selenium.interactions.Actions;

public class Question6 {

    public static void main(String[] args) throws InterruptedException{
        // Set the path to the ChromeDriver executable
        System.setProperty("webdriver.chrome.driver",
"C:\\Users\\sneha\\OneDrive\\Desktop\\seljars\\chromedriver-
win64\\chromedriver-win64\\chromedriver.exe");

        // Initialize the WebDriver
        WebDriver driver = new ChromeDriver();

        // Open a webpage
        driver.get("http://www.facebook.com/");

        // Find an element to perform right-click
        WebElement txtUsername = driver.findElement(By.id("email"));

        // Create Actions class instance
        Actions actions = new Actions(driver);
```

```java
        // Perform right-click action
        actions.contextClick(txtUsername).perform();

        System.out.println("Right-click action done");

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

Mouse-hover action:

```java
package testingAssignment;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.chrome.ChromeDriver;
import org.openqa.selenium.interactions.Actions;

public class Question6a {

    public static void main(String[] args) throws InterruptedException{
        // Set the path to the ChromeDriver executable
        System.setProperty("webdriver.chrome.driver",
"C:\\Users\\sneha\\OneDrive\\Desktop\\seljars\\chromedriver-
win64\\chromedriver-win64\\chromedriver.exe");

        // Initialize the WebDriver
        WebDriver driver = new ChromeDriver();

        // Open a webpage
        driver.get("http://www.facebook.com/");

        // Find an element to perform mouse hover
        WebElement txtUsername = driver.findElement(By.id("email"));

        // Create Actions class instance
        Actions actions = new Actions(driver);

        // Perform mouse hover action
        actions.moveToElement(txtUsername).perform();

        System.out.println("Mouse hover action done");

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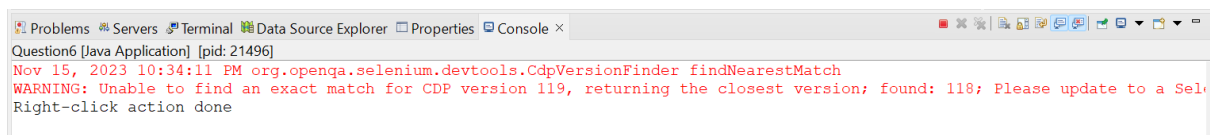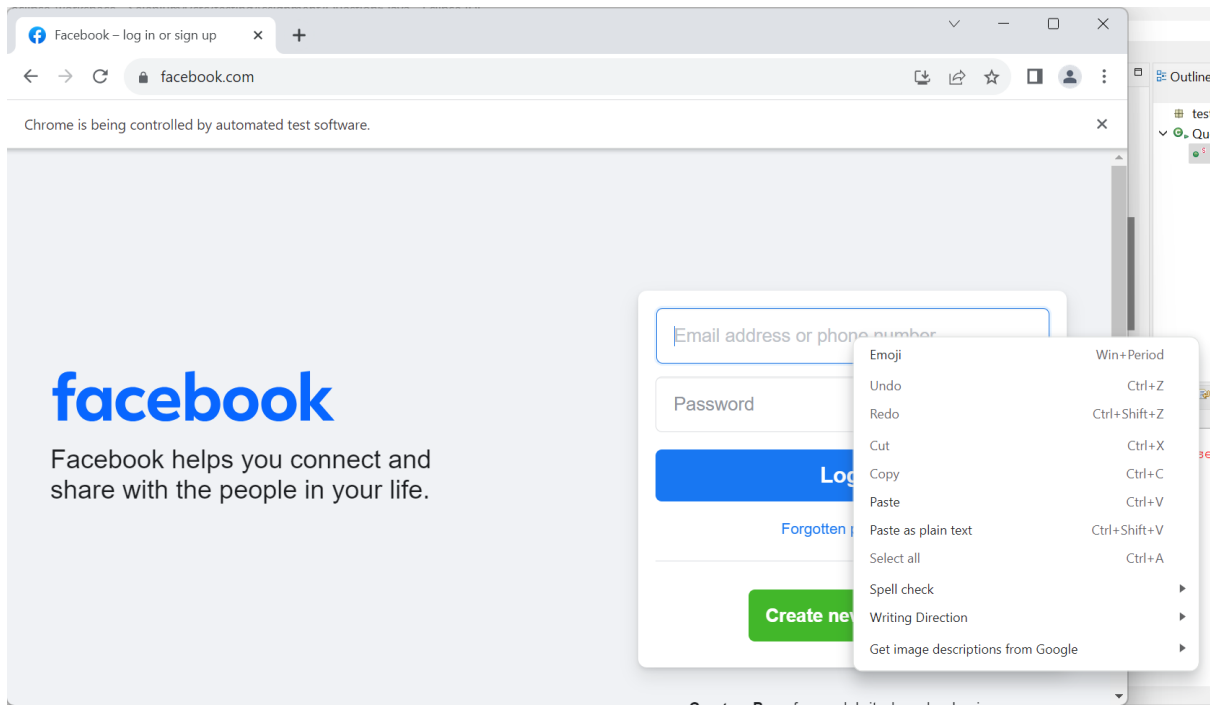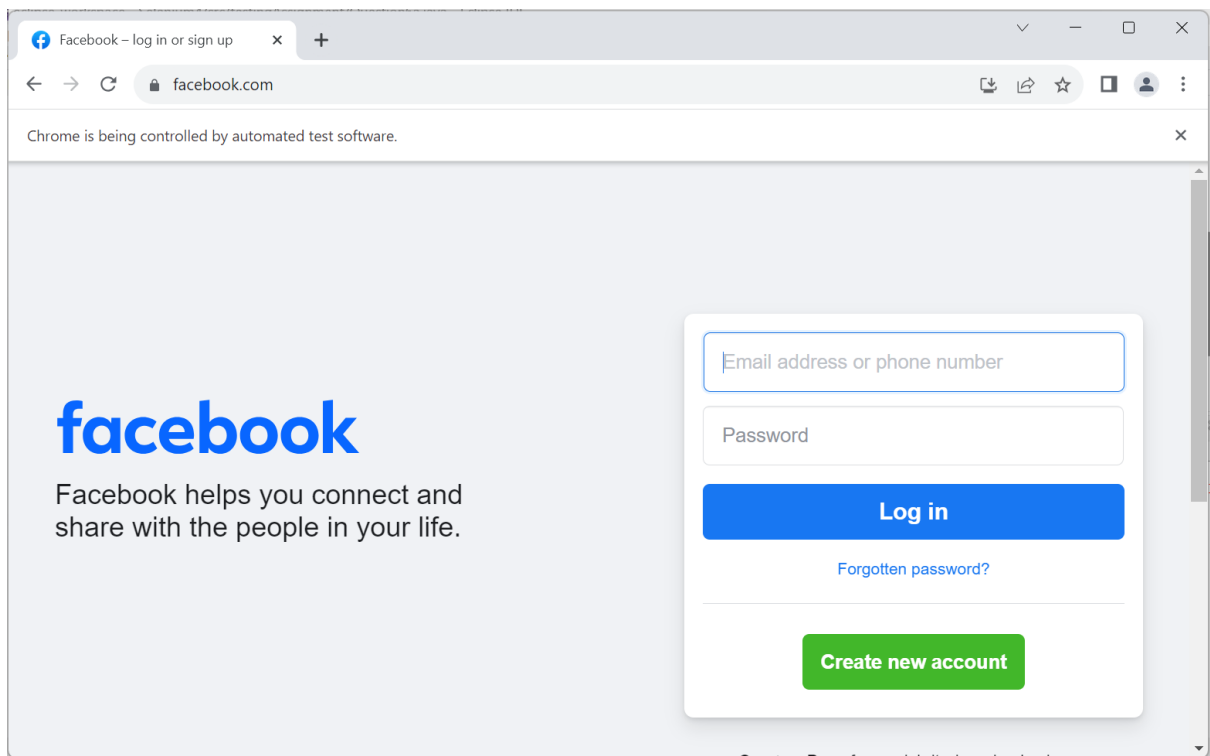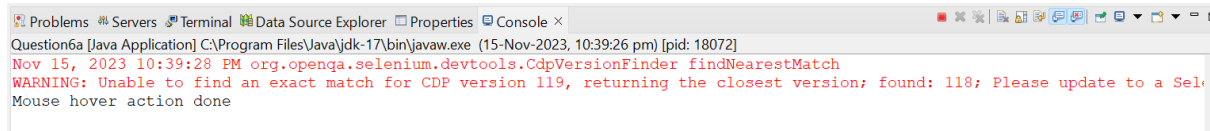
Output:

Right-click action:

Mouse-hover action:

Q7. Can we handle a windows-based Alerts in selenium.. Demonstrate

Yes, we can handle Windows-based Alerts in Selenium. The following program demonstrates the handling of Windows-based alerts:

Solution:

```java
package testingAssignment;
import java.util.concurrent.TimeUnit;

import org.openqa.selenium.Alert;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeDriver;

public class Question7 {

    public static void main(String[] args) throws InterruptedException {


        System.setProperty("webdriver.chrome.driver","C:\\Users\\sneha\\OneDrive\\Desktop\\seljars\\chromedriver-win64\\chromedriver-win64\\chromedriver.exe");
        WebDriver driver = new ChromeDriver();

        driver.manage().timeouts().implicitlyWait(20, TimeUnit.SECONDS);


        driver.get("https://www.w3schools.com/jsref/tryit.asp?filename=tryjsref_alert");

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

        //Switching to the iframe as the button is inside an iframe
        driver.switchTo().frame("iframeResult");

        driver.findElement(By.xpath("//button[text()='Try it']")).click();

        //Switching to Alert window
        Alert alertBox  = driver.switchTo().alert();

        //Getting alert text message
        String alertText = alertBox.getText();

        //Accepting alert.It will click on the OK button
        alertBox.accept();

        System.out.println("Alert Text: "+alertText);

        //Uncomment following line to Close the browser
        //driver.quit();
    }
}
```
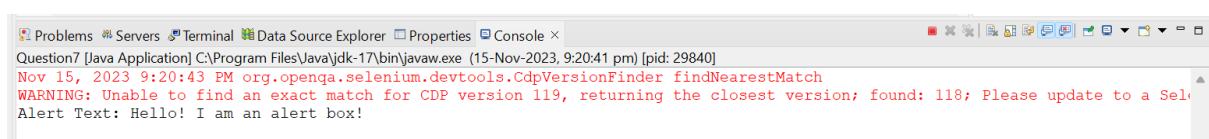
Output:

Problems | Servers | Terminal | Data Source Explorer | Properties | Console ×

Question7 [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (15-Nov-2023, 9:20:41 pm) [pid: 29840]
Nov 15, 2023 9:20:43 PM org.openqa.selenium.devtools.CdpVersionFinder findNearestMatch
WARNING: Unable to find an exact match for CDP version 119, returning the closest version; found: 118; Please update to a Sel
Alert Text: Hello! I am an alert box!

w3schools.com/jsref/tryit.asp?filename=tryjsref_alert

Run ›

Result Size: 625 x 396

```
<!DOCTYPE html>
<html>
<body>

<h1>The Window Object</h1>
<h2>The alert() Method</h2>

<p>Click the button to display an alert box.</p>

<button onclick="myFunction()">Try it</button>

<script>
function myFunction() {
  alert("Hello! I am an alert box!");
}
</script>

</body>
</html>
```

The Window Object

The alert() Method

Click the button to display an alert box.

Try it