Software Testing Quality Assurance Lab
Subject Code: MCAL35

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Semester- 3 Under the Guidance of
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CERTIFICATE

This to certify that, **Ravishankar Jaiswal** appearing **Master in Computer Application (Semester 3) (129211):** has satisfactory completed the prescribed practical of **MCAL35 Software Testing & Quality Assurance Lab** as laid down by the University of Mumbai for the academic year
2023-24

<table>
<tr><td>Teacher in charge</td><td>Examiners</td><td>Coordinator
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</table>

Date: -
Place: -

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Practical No: 01

Aim: To create your First Selenium Automation Test Script.

```java
package seleniumproject;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeDriver;
import org.openqa.selenium.firefox.FirefoxDriver;
public class First
{
public static void main(String[] args) {
// declaration and instantiation of objects/variables
        System.setProperty("webdriver.gecko.driver","D:\\CromeDriver\\geckodriver.exe");
        WebDriver driver = new FirefoxDriver();
//Launch website Introduction to Selenium
        String baseUrl ="http://www.google.com/";
String expectedTitle = "Welcome: Mercury Tours";
String actualTitle = "";
driver.get(baseUrl);
actualTitle = driver.getTitle();
if (actualTitle.contentEquals(expectedTitle)){
System.out.println("Test Passed!");
} else {
        System.out.println("Test Failed");
        }
        //close Fire fox
        driver.close();
}
}
```

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Output:
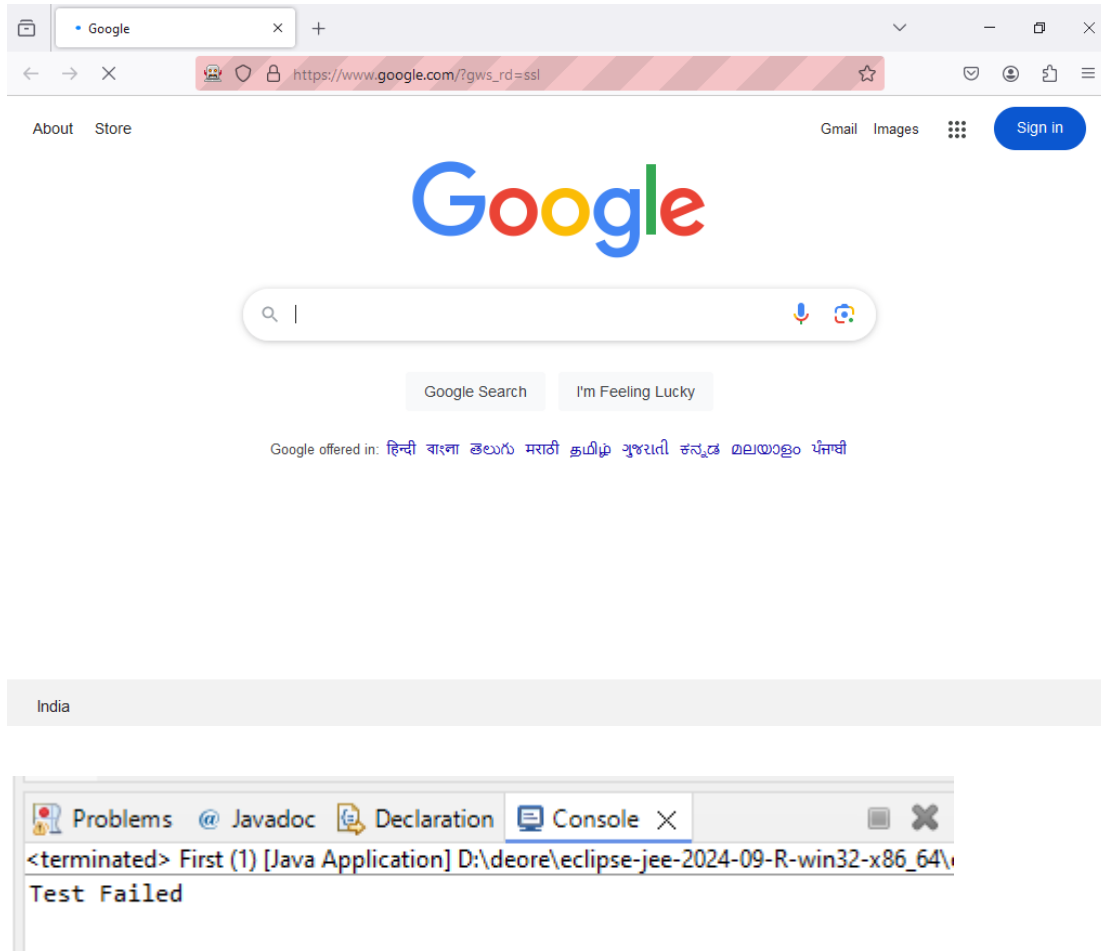
Practical No: 02

Aim: Implementing Web Drivers on Multiple Browser i.e chrome

```java
import org.openqa.selenium.By;
import org.openqa.selenium.JavascriptExecutor;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeDriver;
import org.openqa.selenium.firefox.FirefoxDriver;
public class Third {
public static void main(String[] args) {
// System Property for Chrome Driver
        System.setProperty("webdriver.gecko.driver","D:\\CromeDriver\\geckodriver.exe");
        WebDriver driver = new FirefoxDriver();
// Launch Website
driver.navigate().to("http://www.news.yahoo.com/");
//Maximize the browser
driver.manage().window().maximize();
//Scroll down the webpage by 5000 pixels
JavascriptExecutor js = (JavascriptExecutor)driver;
js.executeScript("scrollBy(0, 5000)");
// Click on the Search button
driver.findElement(By.linkText("Core Java")).click();
}
}
```

Output:

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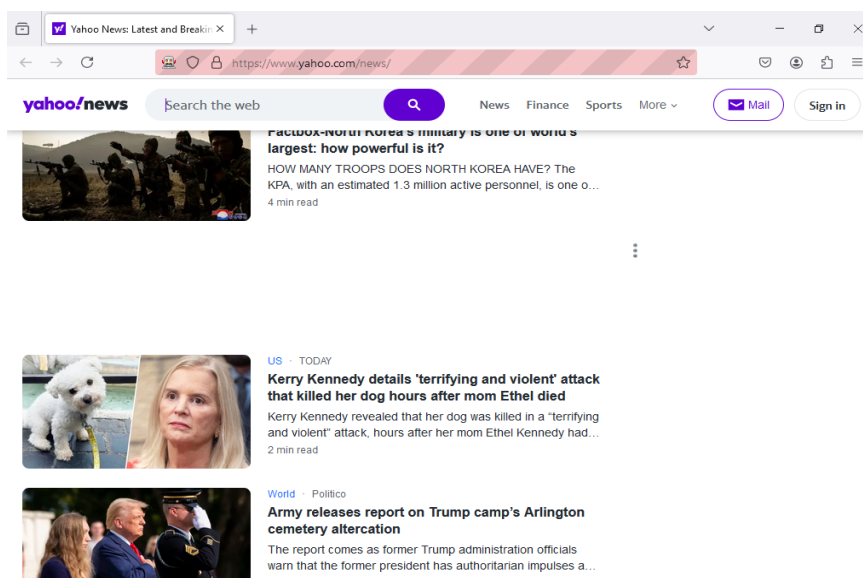
Practical No: 03

Aim: Selenium Web Driver First Script

```
package seleniumproject;
import java.time.Duration;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.chrome.ChromeDriver;
public class HelloSelenium
{
public static void main(String[] args) {
        ChromeDriver driver = new ChromeDriver();
driver.get("https://google.com");
driver.getTitle(); // => "Google"
driver.manage().timeouts().implicitlyWait(Duration.ofMillis(500));
WebElement searchBox = driver.findElement(By.name("q"));
WebElement searchButton = driver.findElement(By.name("btnK"));
searchBox.sendKeys("Selenium");
searchButton.click();
searchBox = driver.findElement(By.name("q"));
searchBox.getAttribute("value"); // => "Selenium"
driver.quit();
}
}
```

Output
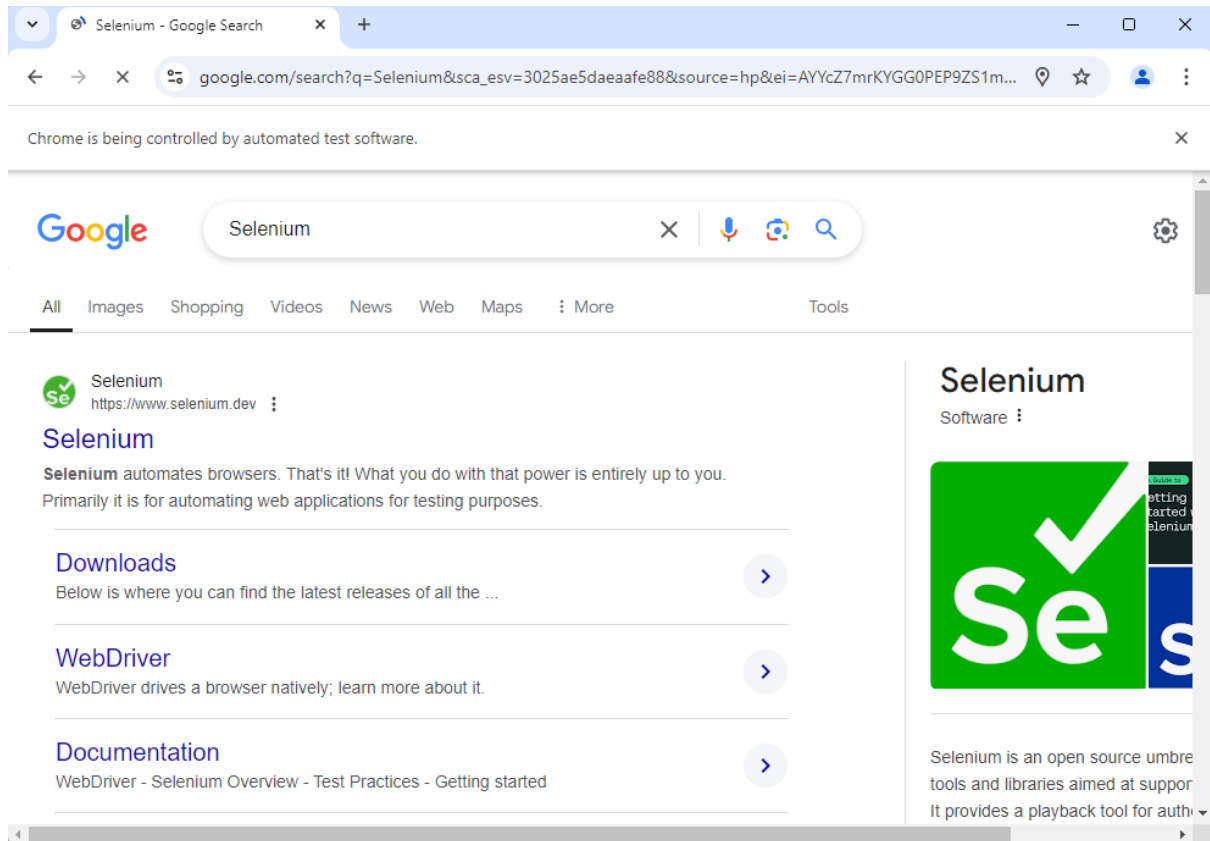
Practical No: 04

Aim: To create a WebDriver script that would fetch Mercury Tours' homepage, verify its title & print out the result of the comparison.

```java
package seleniumproject;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.firefox.FirefoxDriver;
public class Sample {
public static void main(String[] args) {
System.setProperty("webdriver.gecko.driver","D:\\CromeDriver\\geckodriver.exe")
;
WebDriver driver = new FirefoxDriver();
String baseUrl = "http://demo.guru99.com/test/newtours/";
String expectedTitle = "Welcome: Mercury Tours";
String actualTitle = "";
driver.get(baseUrl);
if (actualTitle.contentEquals(expectedTitle)){
System.out.println("Test Passed!");
} else {
System.out.println("Test Failed");
}
//close Fire fox
driver.close();
}
}
```
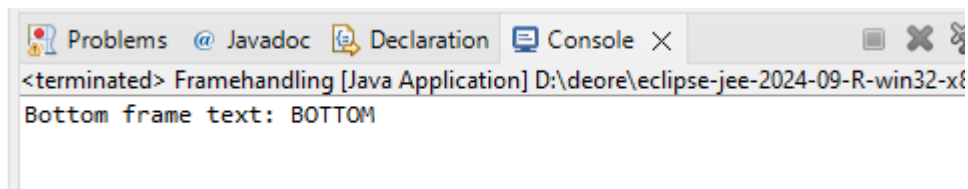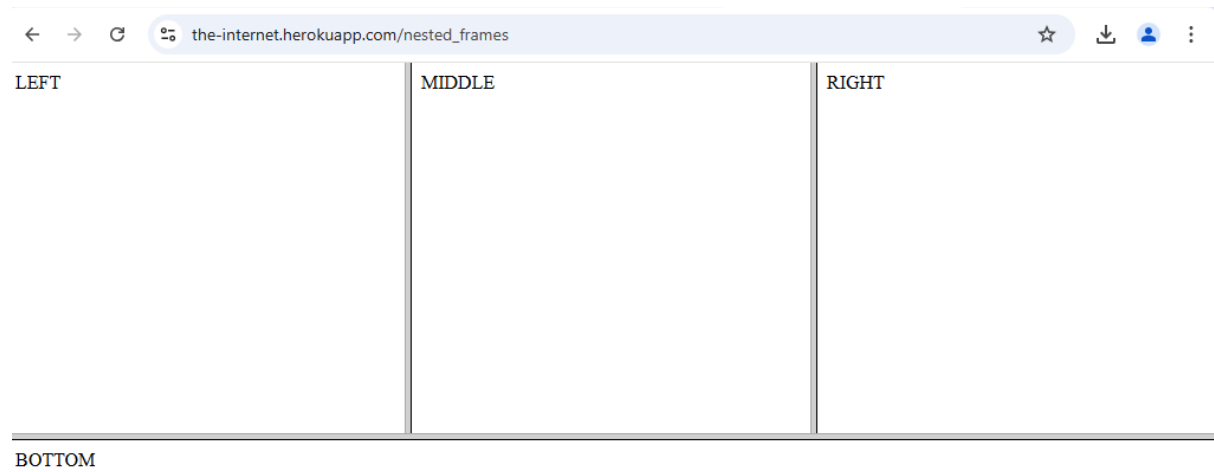
Output

Practical No: 05

Aim: Implementing handling multiple frames

```
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.firefox.FirefoxDriver;
import java.util.concurrent.TimeUnit;
public class Framehandling{
public static void main(String[] args) {
        System.setProperty("webdriver.gecko.driver","D:\\CromeDriver\\geckodriver.exe");
        WebDriver driver = new FirefoxDriver();
String url = "https://the-internet.herokuapp.com/frames";
driver.get(url);
driver.manage().timeouts().implicitlyWait(5, TimeUnit.SECONDS);
// identify element
driver.findElement(By.linkText("Nested Frames")).click();
// switch to frame with frame name and identify inside element
driver.switchTo().frame("frame-bottom");
WebElement l = driver.findElement(By.cssSelector("body"));
System.out.println("Bottom frame text: " +l.getText());
// switch to main page
driver.switchTo().defaultContent();
driver.quit();
}
}
```

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Output

Practical No: 06

Aim: Implementing Selenium WebDriver – Browser Commands

```
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.firefox.FirefoxDriver;
public class Web_command {
        public static void main(String[] args) {

System.setProperty("webdriver.gecko.driver","D:\\CromeDriver\\geckodriver.exe");
                WebDriver driver = new FirefoxDriver();
        String url = ("https://www.google.co.in/");
        //Launch the ToolsQA WebSite
        driver.get(url);
        // Storing Title name in the String variable
        String title = driver.getTitle();
        // Storing Title length in the Int variable
        int titleLength = driver.getTitle().length();
        // Printing Title & Title length in the Console window
        System.out.println("Title of the page is : " + title);
        System.out.println("Length of the title is : "+ titleLength);
        // Storing URL in String variable
        String actualUrl = driver.getCurrentUrl();
        if (actualUrl.equals("https://www.google.co.in/")){
        System.out.println("Verification Successful – The correct Url is opened.");

        }
        else{
        System.out.println("Verification Failed – An incorrect Url is opened.");
         }
        // Storing Page Source in String variable
        String pageSource = driver.getPageSource();
        // Storing Page Source length in Int variable
        int pageSourceLength = pageSource.length();
        // Printing length of the Page Source on console
        System.out.println("Total length of the Pgae Source is : " +
        pageSourceLength);
        //Closing browser
        driver.close();
        }
```
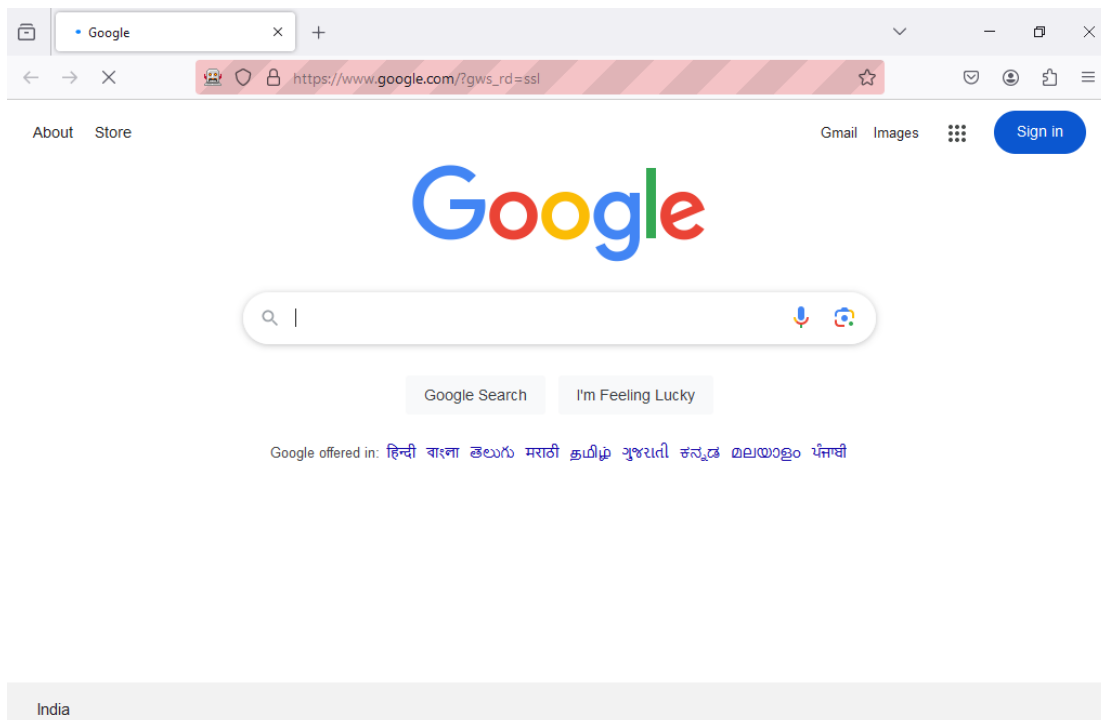
```
        }
```

Output

Practical No: 07

Aim: Implementing Selenium WebDriver - find element command, Locator (id, css selector, Xpath), Input Box, Buttons, Submit Buttons.

```
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeDriver;
import org.openqa.selenium.firefox.FirefoxDriver;
import org.openqa.selenium.*;
public class Form {
public static void main(String[] args) {
// declaration and instantiation of objects/variables
        System.setProperty("webdriver.gecko.driver","D:\\CromeDriver\\geckodriver.exe");
        WebDriver driver = new FirefoxDriver();
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");
}
//Selecting Checkbox and using isSelected Method
driver.get("http://demo.guru99.com/test/facebook.html");
WebElement chkFBPersist =
driver.findElement(By.id("persist_box"));
for (int i=0; i<2; i++) {
chkFBPersist.click ();
System.out.println("Facebook Persists Checkbox Status is -"+chkFBPersist.isSelected());
```

```
}
//driver.close();
}
}
```

Output

Practical No:08

Aim: Demonstrate different types of alerts

```java
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeDriver;
import org.openqa.selenium.firefox.FirefoxDriver;
import org.openqa.selenium.NoAlertPresentException;
import org.openqa.selenium.Alert;
public class AlertDemo {
public static void main(String[] args) throws
NoAlertPresentException,InterruptedException {
        System.setProperty("webdriver.gecko.driver","D:\\CromeDriver\\geckodriver.exe");
        WebDriver driver = new FirefoxDriver();
// Alert Message handling
driver.get("http://demo.guru99.com/test/delete_customer.php");
driver.findElement(By.name("cusid")).sendKeys("53920");
driver.findElement(By.name("submit")).submit();
// Switching to Alert
Alert alert = driver.switchTo().alert();
// Capturing alert message.
String alertMessage= driver.switchTo().alert().getText();
// Displaying alert message
System.out.println(alertMessage);
Thread.sleep(5000);
// Accepting alert
alert.accept();
}
}
```

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Output
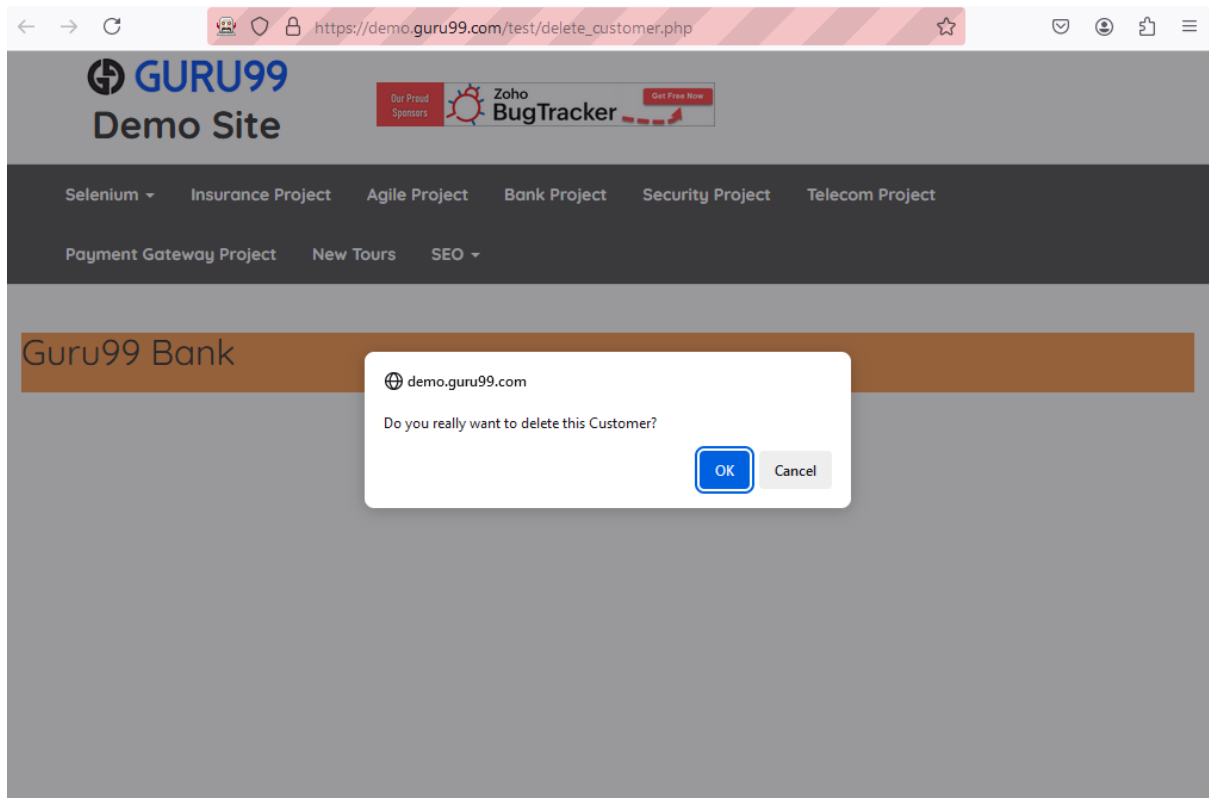
Practical No: 09

Aim: Demonstrate synchronization in selenium (Implicit wait)

```
package seleniumproject;
import java.util.concurrent.TimeUnit;
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.firefox.FirefoxDriver;
import org.openqa.selenium.support.ui.ExpectedConditions;
import org.openqa.selenium.support.ui.WebDriverWait;
public class ImplicitWait{
public static void main(String[] args) throws InterruptedException
{
        System.setProperty("webdriver.gecko.driver","D:\\CromeDriver\\geckodriver.exe");
        WebDriver driver = new FirefoxDriver();
driver.manage().window().maximize();
driver.manage().deleteAllCookies();
driver.manage().timeouts().pageLoadTimeout(40,
TimeUnit.SECONDS); // pageload timeout
driver.manage().timeouts().implicitlyWait(20, TimeUnit.SECONDS);
// Implicit Wait for 20 seconds
driver.get("https://login.google.com/");
driver.findElement(By.xpath("//input[@id='loginusername']")).sendKeys("JavaTpoint.com");
//Finding element and
Thread.sleep(1000);
driver.findElement(By.xpath("//input[@id='login-signin']")).click();
//Clicking on the next button if element is located
}
}
```

Output

In the code snippet given above, the Implicit Wait is defined for only 20 seconds, implying that the output will load or arrive within the maximum waiting time of 20 seconds for the particular element.
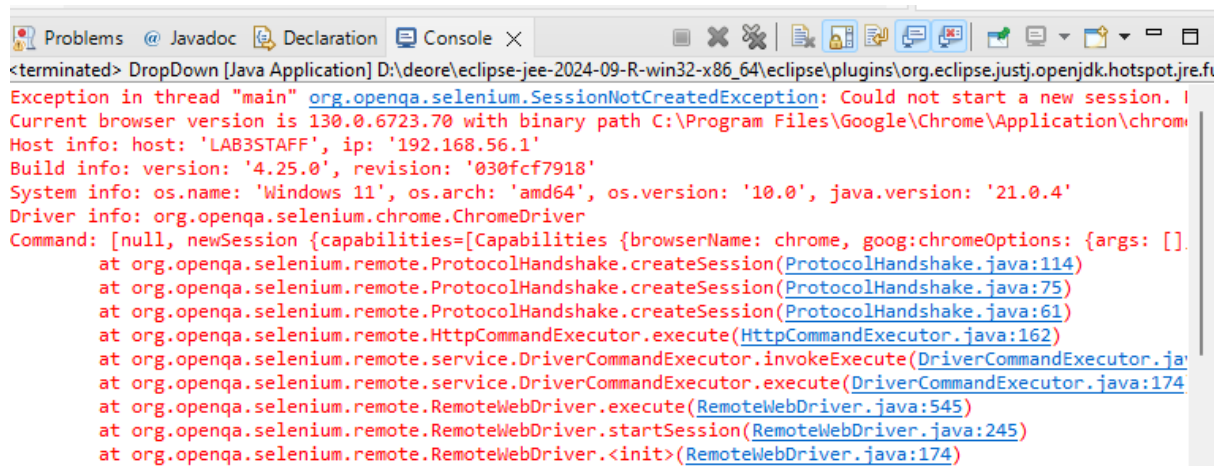
Practical No: 10

Aim: Demonstrate: Select Value from DropDown using Selenium Webdriver

```java
import java.util.List;
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.firefox.FirefoxDriver;
import org.openqa.selenium.support.ui.Select;
public class DropDown {
public static void main(String[] args) throws InterruptedException {
//Creating instance of Chrome driver

System.setProperty("webdriver.chrome.driver","D:\\CromeDriver\\chromedriver.exe");
        WebDriver driver=new ChromeDriver();
//Step#2- Launching URL
        driver.get("https://demoqa.com/select-menu");
//Maximizing window
driver.manage().window().maximize();
//Step#3- Selecting the dropdown element by locating its id
Select select = new
Select(driver.findElement(By.id("oldSelectMenu")));
//Step#4- Printing the options of the dropdown
//Get list of web elements
List<WebElement> lst = select.getOptions();
//Looping through the options and printing dropdown options
System.out.println("The dropdown options are:");
for(WebElement options: lst)
System.out.println(options.getText());
//Step#5- Selecting the option as 'Purple'-- selectByIndex
System.out.println("Select the Option by Index 4");
select.selectByIndex(4);
System.out.println("Select value is: " +
select.getFirstSelectedOption().getText());
//Step#6- Selecting the option as 'Magenta'-- selectByVisibleText
System.out.println("Select the Option by Text Magenta");
select.selectByVisibleText("Magenta");
System.out.println("Select value is: " +
select.getFirstSelectedOption().getText());
```
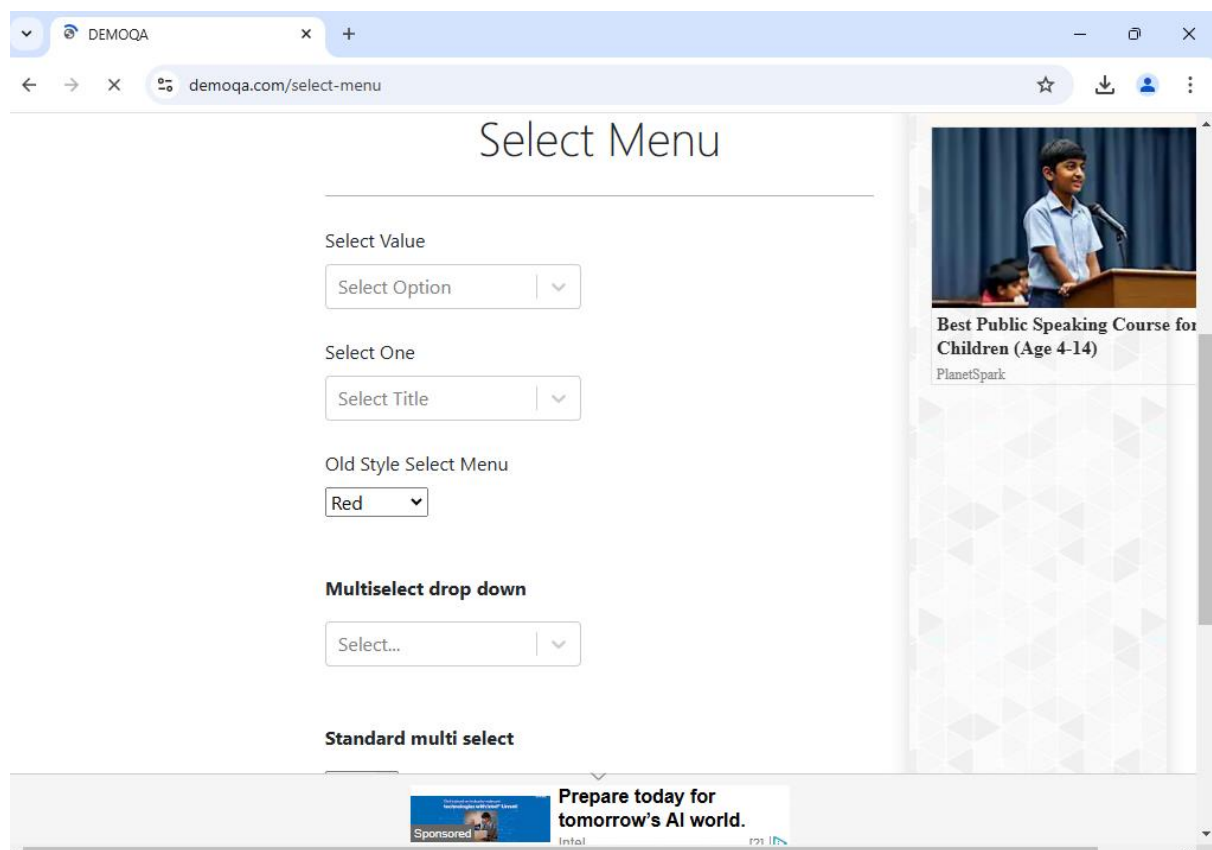
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//Step#7- Selecting an option by its value

System.*out*.println("Select the Option by value 6");

select.selectByValue("6");

System.*out*.println("Select value is: " +

select.getFirstSelectedOption().getText());

driver.quit();

}

}

Output

The dropdown options are:
Red
Blue
Green
Yellow
Purple
Black
White
Voilet
Indigo
Magenta
Aqua
Select the Option by Index 4
Select value is: Purple
Select the Option by Text Magenta
Select value is: Magenta
Select the Option by value 6
Select value is: White

Practical No: 11

Aim: Demonstrate action classes using Selenium Web driver (Mouse Events)

```java
import org.openqa.selenium.*;
import org.openqa.selenium.firefox.FirefoxDriver;
import org.openqa.selenium.interactions.Action;
import org.openqa.selenium.interactions.Actions;
public class PG7 {
public static void main(String[] args) {
String baseUrl = "http://demo.guru99.com/test/newtours/";
System.setProperty("webdriver.gecko.driver","D:\\CromeDriver\\geckodriver.exe");
WebDriver driver = new FirefoxDriver();
driver.get(baseUrl);
WebElement link_Home =
driver.findElement(By.linkText("Home"));
WebElement td_Home = driver
.findElement(By
.xpath("//html/body/div"
+ "/table/tbody/tr/td"
+ "/table/tbody/tr/td"
+ "/table/tbody/tr/td"
+ "/table/tbody/tr"));
Actions builder = new Actions(driver);
Action mouseOverHome = builder
.moveToElement(link_Home)
.build();
String bgColor = td_Home.getCssValue("background-color");
System.out.println("Before hover: " + bgColor);
mouseOverHome.perform();
bgColor = td_Home.getCssValue("background-color");
System.out.println("After hover: " + bgColor);
driver.close();
}
}
```

Output
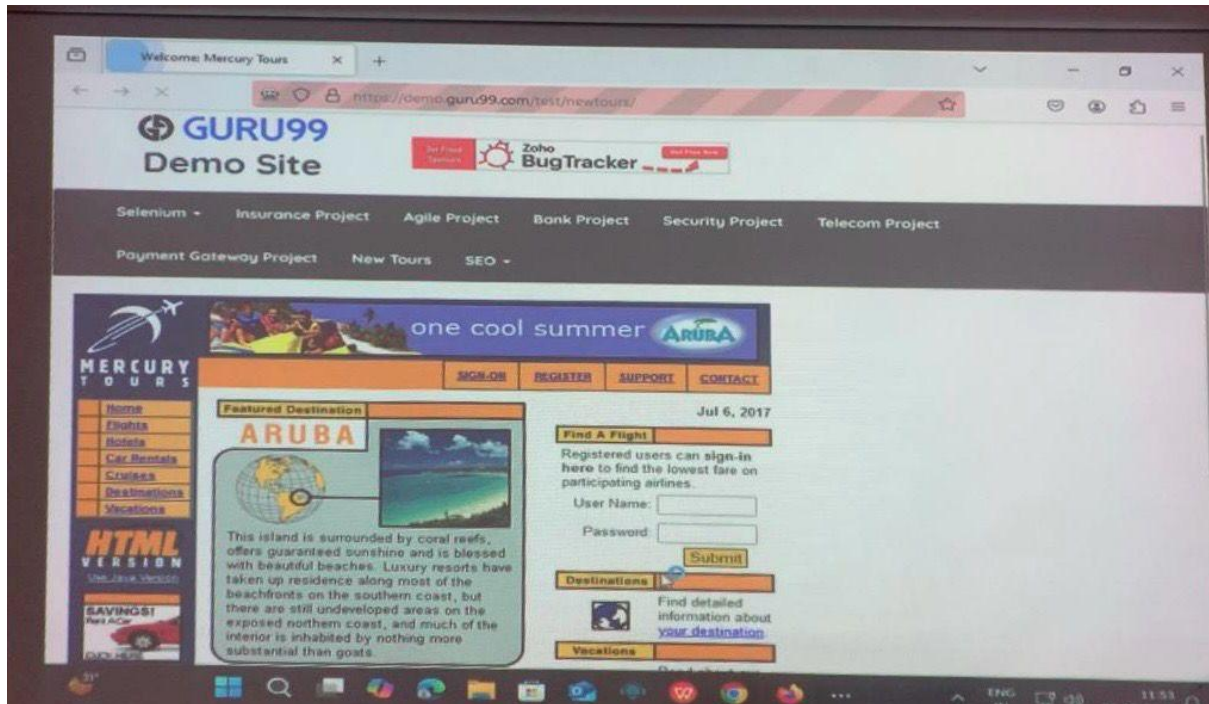

```
Problems  @ Javadoc  Declaration  Console  X
<terminated> PG7 [Java Application] D:\deore\eclipse-jee-2024-09-R-wi
Before hover: rgb(255, 165, 0)
After hover: rgba(0, 0, 0, 0)
```