1.

**Task .1**

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.support.ui.Select;

public class FillStudentRegistrationForm {

public static void main(String[] args) {

// Set the path to the chromedriver executable

System.setProperty("webdriver.chrome.driver", "path/to/chromedriver");

// Create a new instance of the Chrome driver

WebDriver driver = new ChromeDriver();

// Navigate to the form URL

driver.get("URL\_OF\_THE\_FORM\_PAGE");

// Fill out the form fields

driver.findElement(By.name("firstName")).sendKeys("John");

driver.findElement(By.name("lastName")).sendKeys("Doe");

driver.findElement(By.name("email")).sendKeys("john.doe@example.com");

// Select gender

WebElement genderMale = driver.findElement(By.id("male"));

genderMale.click();

// Fill mobile number

driver.findElement(By.name("mobile")).sendKeys("1234567890");

// Select date of birth

driver.findElement(By.name("dob")).sendKeys("12/09/2023");

// Fill subjects

driver.findElement(By.name("subjects")).sendKeys("Mathematics, Science");

// Select hobbies

WebElement hobbySports = driver.findElement(By.id("sports"));

hobbySports.click();

WebElement hobbyReading = driver.findElement(By.id("reading"));

hobbyReading.click();

// Upload picture

driver.findElement(By.name("picture")).sendKeys("path/to/picture.png");

// Fill current address

driver.findElement(By.name("currentAddress")).sendKeys("123 Main St, City, Country");

// Submit the form

driver.findElement(By.name("submit")).click();

// Close the browser

driver.quit();

}

}

**Task.2**

import org.openqa.selenium.By;

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.interactions.Actions;

import org.openqa.selenium.io.FileHandler;

import java.io.File;

import java.io.IOException;

public class FormScreenshot {

public static void main(String[] args) {

// Set the path to the chromedriver executable

System.setProperty("webdriver.chrome.driver", "path/to/chromedriver");

// Initialize the ChromeDriver

WebDriver driver = new ChromeDriver();

try {

// Open the form URL

driver.get("URL\_of\_the\_form");

// Fill out the form using XPath

driver.findElement(By.xpath("//input[@placeholder='First Name']")).sendKeys("John");

driver.findElement(By.xpath("//input[@placeholder='Last Name']")).sendKeys("Doe");

driver.findElement(By.xpath("//input[@placeholder='name@example.com']")).sendKeys("john.doe@example.com");

driver.findElement(By.xpath("//input[@value='Male']")).click();

driver.findElement(By.xpath("//input[@placeholder='Mobile Number']")).sendKeys("1234567890");

driver.findElement(By.xpath("//input[@placeholder='12 Sep 2023']")).sendKeys("12 Sep 2023");

driver.findElement(By.xpath("//input[@placeholder='Subjects']")).sendKeys("Math, Science");

driver.findElement(By.xpath("//input[@value='Sports']")).click();

driver.findElement(By.xpath("//input[@value='Reading']")).click();

driver.findElement(By.xpath("//input[@value='Music']")).click();

driver.findElement(By.xpath("//input[@type='file']")).sendKeys("path/to/picture.jpg");

driver.findElement(By.xpath("//textarea[@placeholder='Current Address']")).sendKeys("123 Main St, Anytown, USA");

// Take a screenshot of the filled form

File screenshot = ((TakesScreenshot) driver).getScreenshotAs(OutputType.FILE);

FileHandler.copy(screenshot, new File("filled\_form\_screenshot.png"));

System.out.println("Screenshot taken and saved as filled\_form\_screenshot.png");

} catch (IOException e) {

e.printStackTrace();

} finally {

// Close the browser

driver.quit();

}

}

}

2.

**Task 1: Verify that there are only 4 structure values present in the table with Selenium**

from selenium import webdriver

# Initialize the WebDriver

driver = webdriver.Chrome()

# Open the webpage containing the table

driver.get('URL\_OF\_THE\_WEBPAGE')

# Locate the table

table = driver.find\_element\_by\_xpath('XPATH\_OF\_THE\_TABLE')

# Find all rows in the table

rows = table.find\_elements\_by\_tag\_name('tr')

# Verify that there are only 4 structure values

structure\_values = [row.find\_elements\_by\_tag\_name('td')[0].text for row in rows[1:5]]

assert len(structure\_values) == 4, "There are not exactly 4 structure values present in the table."

# Close the WebDriver

driver.quit()

**Task 2: Verify that the 6th row of the table (Last Row) has only two columns with Selenium**

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.WebElement;

import org.openqa.selenium.chrome.ChromeDriver;

import java.util.List;

public class TallestBuildingsTable {

public static void main(String[] args) {

// Set the path to the chromedriver executable

System.setProperty("webdriver.chrome.driver", "path/to/chromedriver");

// Initialize the ChromeDriver

WebDriver driver = new ChromeDriver();

// Open the webpage containing the table

driver.get("URL\_of\_the\_webpage");

// Task 1: Verify that there are only 4 structure values present in the table

List<WebElement> structureValues = driver.findElements(By.xpath("//table/tbody/tr/td[1]"));

if (structureValues.size() == 4) {

System.out.println("Task 1: There are 4 structure values present in the table.");

} else {

System.out.println("Task 1: The number of structure values is incorrect.");

}

// Task 2: Verify that the 6th row of the table (Last Row) has only two columns

List<WebElement> lastRowColumns = driver.findElements(By.xpath("//table/tbody/tr[6]/td"));

if (lastRowColumns.size() == 2) {

System.out.println("Task 2: The 6th row has only two columns.");

} else {

System.out.println("Task 2: The 6th row does not have two columns.");

}

// Task 3: Find the tallest structure in the table

List<WebElement> heights = driver.findElements(By.xpath("//table/tbody/tr/td[4]"));

List<WebElement> structures = driver.findElements(By.xpath("//table/tbody/tr/td[1]"));

int maxHeight = 0;

String tallestStructure = "";

for (int i = 0; i < heights.size(); i++) {

int height = Integer.parseInt(heights.get(i).getText().replace("m", ""));

if (height > maxHeight) {

maxHeight = height;

tallestStructure = structures.get(i).getText();

}

}

System.out.println("Task 3: The tallest structure in the table is " + tallestStructure + " with a height of " + maxHeight + "m.");

// Close the browser

driver.quit();

}

}

3.

**Task 1: Click on Edit button for a given name**

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.WebElement;

import org.openqa.selenium.chrome.ChromeDriver;

public class EditButtonClick {

public static void main(String[] args) {

System.setProperty("webdriver.chrome.driver", "path\_to\_chromedriver");

WebDriver driver = new ChromeDriver();

driver.get("URL\_of\_the\_webpage");

String firstName = "Cierra"; // Change this to select another user

// Locate the edit button corresponding to the given first name

WebElement editButton = driver.findElement(By.xpath("//td[text()='" + firstName + "']/following-sibling::td[last()]/button[@class='edit-btn']"));

editButton.click();

System.out.println("Edit button clicked for: " + firstName);

driver.quit();

}

}

**Task 2: Click on Delete button for a given name**

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.WebElement;

import org.openqa.selenium.chrome.ChromeDriver;

public class DeleteButtonClick {

public static void main(String[] args) {

System.setProperty("webdriver.chrome.driver", "path\_to\_chromedriver");

WebDriver driver = new ChromeDriver();

driver.get("URL\_of\_the\_webpage");

String firstName = "Alden"; // Change this to select another user

// Locate the delete button corresponding to the given first name

WebElement deleteButton = driver.findElement(By.xpath("//td[text()='" + firstName + "']/following-sibling::td[last()]/button[@class='delete-btn']"));

deleteButton.click();

System.out.println("Delete button clicked for: " + firstName);

driver.quit();

}

}

**4.**

**Task 1: Verify if the test case passes or fails**

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.WebElement;

import org.openqa.selenium.chrome.ChromeDriver;

import org.testng.Assert;

import org.testng.annotations.AfterTest;

import org.testng.annotations.BeforeTest;

import org.testng.annotations.Test;

public class LoginTest {

WebDriver driver;

@BeforeTest

public void setup() {

System.setProperty("webdriver.chrome.driver", "path\_to\_chromedriver");

driver = new ChromeDriver();

driver.get("http://demo.guru99.com/V4/");

}

@Test

public void verifyLogin() {

driver.findElement(By.name("uid")).sendKeys("mngr123456"); // Replace with valid User ID

driver.findElement(By.name("password")).sendKeys("password123"); // Replace with valid Password

driver.findElement(By.name("btnLogin")).click();

// Check if login is successful

WebElement homePage = driver.findElement(By.xpath("//marquee[contains(text(),'Welcome To Manager')]"));

Assert.assertTrue(homePage.isDisplayed(), "Login failed!");

System.out.println("Test Passed: Login successful.");

}

@AfterTest

public void tearDown() {

driver.quit();

}

}

**Task 2: Parameterize script using TestNG and take input from an Excel sheet**

import org.apache.poi.ss.usermodel.\*;

import org.apache.poi.xssf.usermodel.XSSFWorkbook;

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.WebElement;

import org.openqa.selenium.chrome.ChromeDriver;

import org.testng.Assert;

import org.testng.annotations.AfterTest;

import org.testng.annotations.BeforeTest;

import org.testng.annotations.DataProvider;

import org.testng.annotations.Test;

import java.io.File;

import java.io.FileInputStream;

import java.io.IOException;

public class LoginWithExcel {

WebDriver driver;

@BeforeTest

public void setup() {

System.setProperty("webdriver.chrome.driver", "path\_to\_chromedriver");

driver = new ChromeDriver();

driver.get("http://demo.guru99.com/V4/");

}

@Test(dataProvider = "loginData")

public void loginTest(String username, String password) {

driver.findElement(By.name("uid")).clear();

driver.findElement(By.name("uid")).sendKeys(username);

driver.findElement(By.name("password")).clear();

driver.findElement(By.name("password")).sendKeys(password);

driver.findElement(By.name("btnLogin")).click();

// Verify login success

try {

WebElement homePage = driver.findElement(By.xpath("//marquee[contains(text(),'Welcome To Manager')]"));

Assert.assertTrue(homePage.isDisplayed(), "Login failed!");

System.out.println("Login successful for user: " + username);

} catch (Exception e) {

System.out.println("Login failed for user: " + username);

}

}

@DataProvider(name = "loginData")

public Object[][] getLoginData() throws IOException {

FileInputStream file = new FileInputStream(new File("path\_to\_excel.xlsx"));

Workbook workbook = new XSSFWorkbook(file);

Sheet sheet = workbook.getSheetAt(0);

int rowCount = sheet.getPhysicalNumberOfRows();

Object[][] data = new Object[rowCount - 1][2];

for (int i = 1; i < rowCount; i++) {

Row row = sheet.getRow(i);

data[i - 1][0] = row.getCell(0).getStringCellValue(); // Username

data[i - 1][1] = row.getCell(1).getStringCellValue(); // Password

}

workbook.close();

return data;

}

@AfterTest

public void tearDown() {

driver.quit();

}

}

**Task 3: Take a screenshot for failed test cases**

import org.apache.commons.io.FileUtils;

import org.openqa.selenium.\*;

import org.openqa.selenium.chrome.ChromeDriver;

import org.testng.Assert;

import org.testng.annotations.AfterTest;

import org.testng.annotations.BeforeTest;

import org.testng.annotations.Test;

import java.io.File;

import java.io.IOException;

import java.text.SimpleDateFormat;

import java.util.Date;

public class LoginWithScreenshot {

WebDriver driver;

@BeforeTest

public void setup() {

System.setProperty("webdriver.chrome.driver", "path\_to\_chromedriver");

driver = new ChromeDriver();

driver.get("http://demo.guru99.com/V4/");

}

@Test

public void loginTest() {

driver.findElement(By.name("uid")).sendKeys("wrongUser"); // Invalid username

driver.findElement(By.name("password")).sendKeys("wrongPass"); // Invalid password

driver.findElement(By.name("btnLogin")).click();

try {

WebElement homePage = driver.findElement(By.xpath("//marquee[contains(text(),'Welcome To Manager')]"));

Assert.assertTrue(homePage.isDisplayed(), "Login failed!");

} catch (Exception e) {

takeScreenshot("Login\_Failed");

System.out.println("Login failed! Screenshot captured.");

}

}

public void takeScreenshot(String filename) {

File srcFile = ((TakesScreenshot) driver).getScreenshotAs(OutputType.FILE);

String timestamp = new SimpleDateFormat("yyyyMMddHHmmss").format(new Date());

try {

FileUtils.copyFile(srcFile, new File("./Screenshots/" + filename + "\_" + timestamp + ".png"));

} catch (IOException e) {

e.printStackTrace();

}

}

@AfterTest

public void tearDown() {

driver.quit();

}

}