Name : Rupali Jadhav
Roll No. : 87

G) TestNG using xml.

Code :

```
package testcase;

import utilities.ReadPropertyFile;
import java.io.IOException;
import java.util.Properties;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeDriver;
import io.github.bonigarcia.wdm.WebDriverManager;

public class MyFirstTest {
    public static void main(String[] args) throws IOException, InterruptedException {
        Properties prop = ReadPropertyFile.getProperties();
        String browser = prop.getProperty("browser");
        String url = prop.getProperty("testurl");

        if (browser.equalsIgnoreCase("chrome")) {
            WebDriverManager.chromedriver().setup();
            WebDriver driver = new ChromeDriver();

            try {
                driver.manage().window().maximize();
                driver.get(url);
                System.out.println("Opened URL: " + url);

                // Example locators (update according to the real page)
                // driver.findElement(By.linkText("Sign in")).click();
                // driver.findElement(By.id("login_id")).sendKeys(prop.getProperty("login_id"));
                // driver.findElement(By.id("password")).sendKeys(prop.getProperty("password"));
                // driver.findElement(By.xpath("//button[@id='nextbtn']")).click();

                Thread.sleep(3000);
            } finally {
                driver.quit();
            }
        } else {
            System.out.println("Browser not supported: " + browser);
        }
    }
}
```

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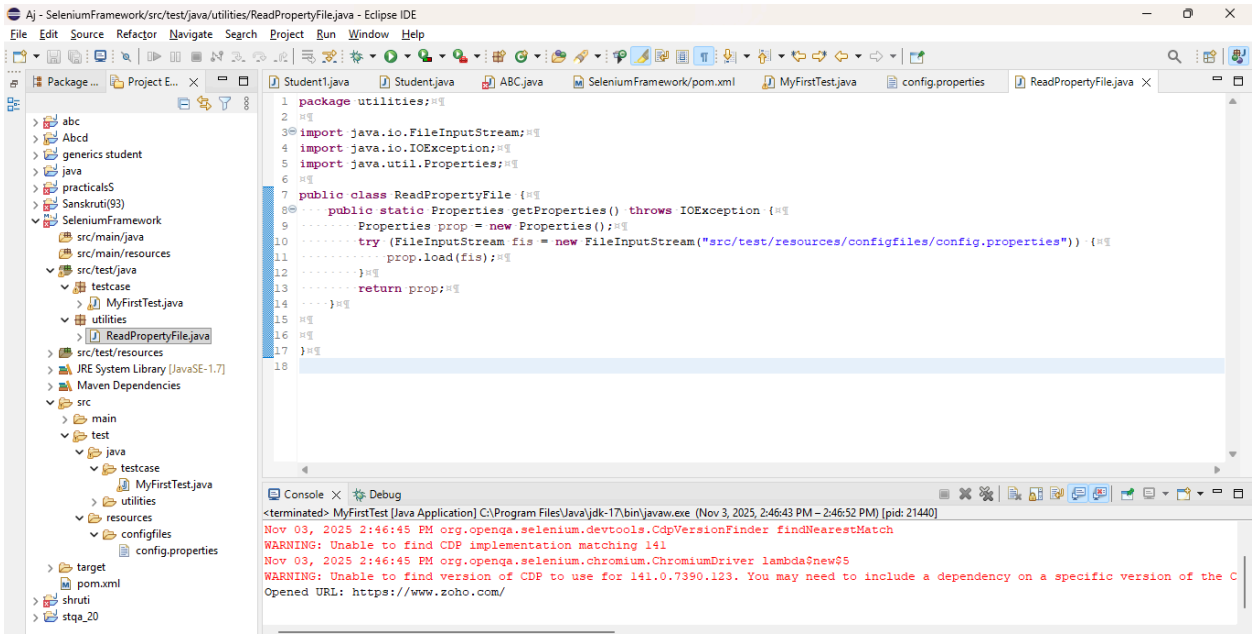

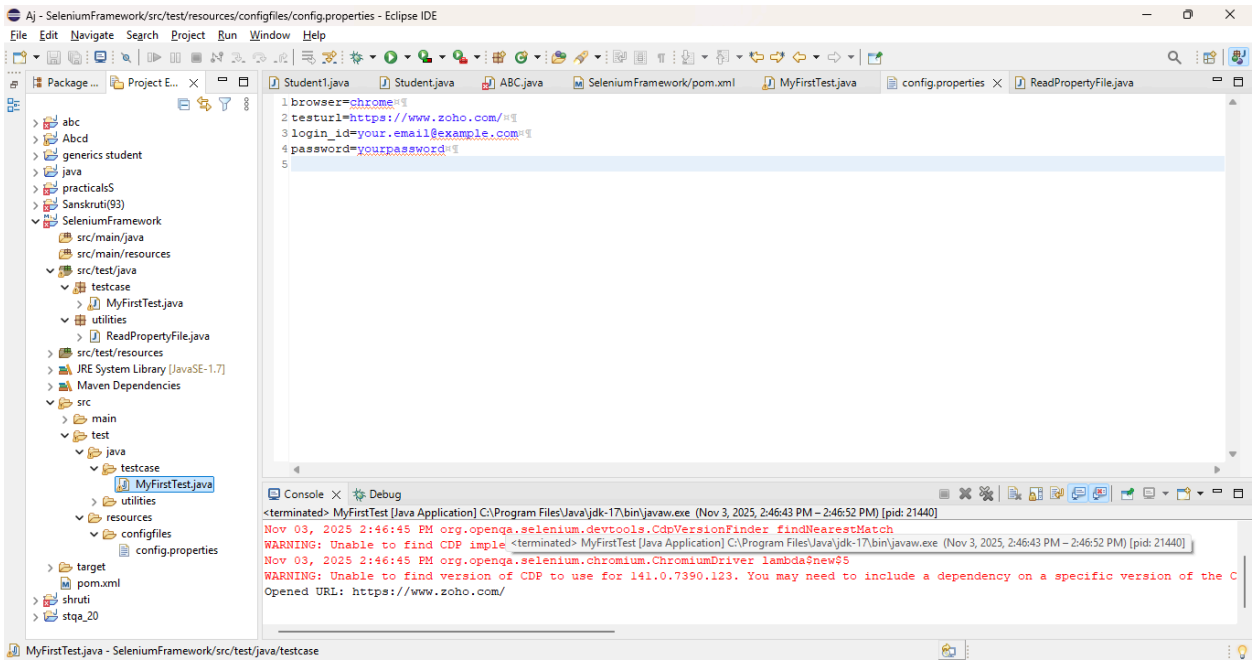

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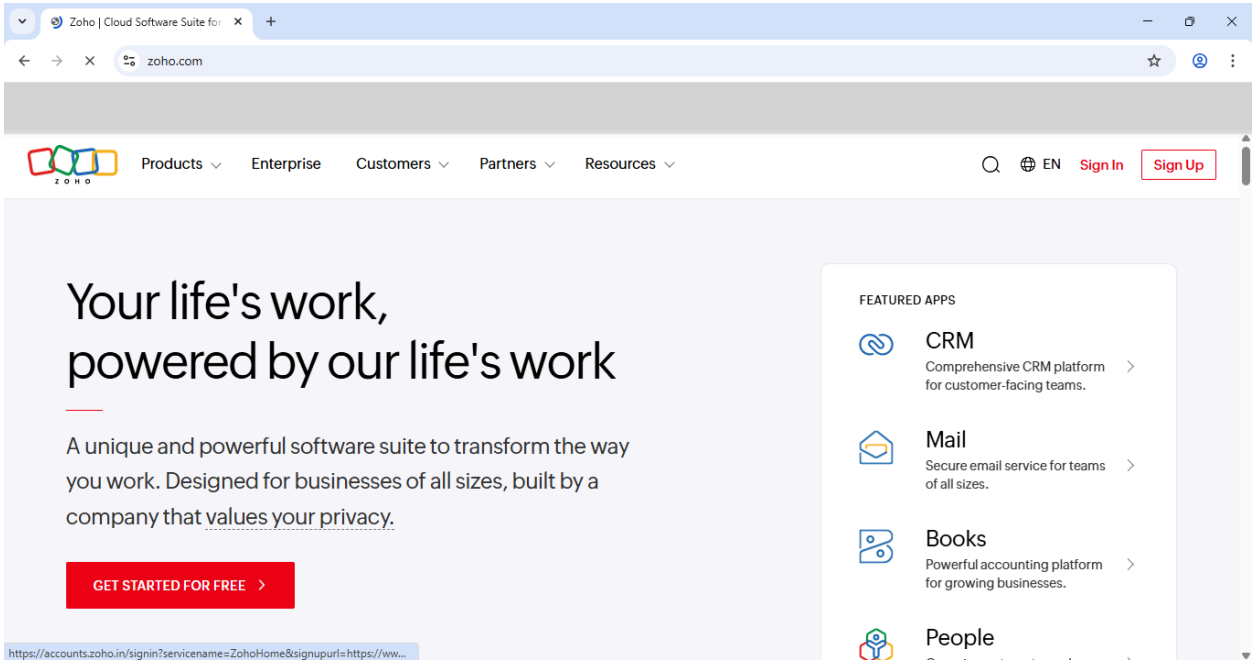

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Practical No : 14

Aim: Demonstrate Library Architecture Framework

TestExecution.java

```
package testcases;

import library.AppLibrary;
import utils.ExcelLibrary;

public class TestExecution {

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

        String excelPath = "C:\\Users\\Asus\\Downloads\\ExcelData.xlsx";
        ExcelLibrary excel = new ExcelLibrary(excelPath, "Sheet1");
        AppLibrary app = new AppLibrary();

        System.out.println("--- Starting Library Architecture Framework ---");

        for (int i = 1; i <= excel.getRowCount(); i++) {
            String username = excel.getCellData(i, 0);
            String password = excel.getCellData(i, 1);
            String expected = excel.getCellData(i, 2);
            System.out.println("\nTesting User: " + username + " | Expected: " + expected);
            app.launchBrowser();
            app.openApplication();
            String actualResult = app.performLogin(username, password);
            System.out.println("Actual Result: " + actualResult);
            excel.setCellData(i, 3, actualResult);  // write result to Excel
            app.closeBrowser();
        }
        excel.closeWorkbook();
        System.out.println("--- Test Execution Completed ---");
    }
}
```

Output -

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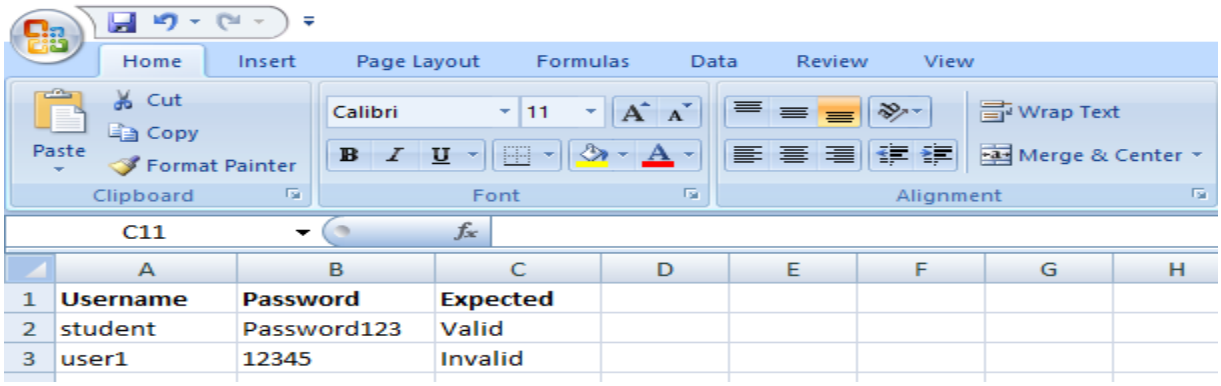
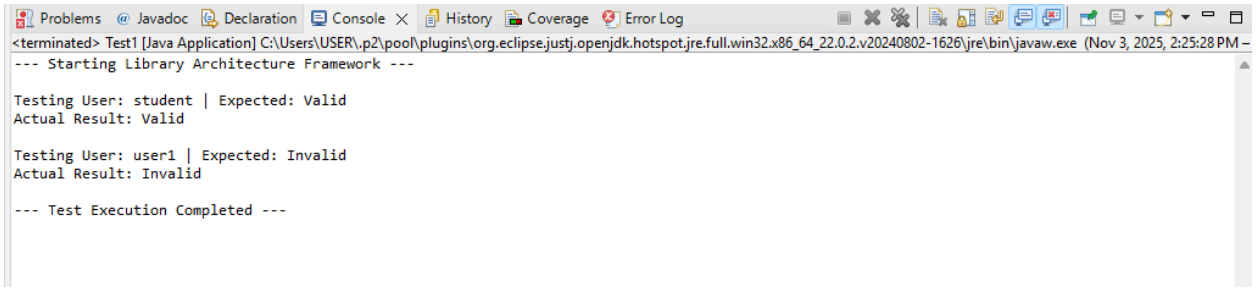


	A	B	C	D	E	F	G	H
1	**Username**	**Password**	**Expected**					
2	student	Password123	Valid					
3	user1	12345	Invalid					



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Practical No : 15

Aim:- Perform regression testing

What is Regression Testing?

REGRESSION TESTING is defined as a type of software testing to confirm that a recent program or code change has not adversely affected existing features. Regression Testing is nothing but a full or partial selection of already executed test cases which are re-executed to ensure existing functionalities work fine.This testing is done to make sure that new code changes should not have side effects on the existing functionalities. It ensures that the old code still works once the latest code changes are done.

Need of Regression Testing

The Need of Regression Testing mainly arises whenever there is requirement to change the code and we need to test whether the modified code affects the other part of software application or not. Moreover, regression testing is needed, when a new feature is added to the software application and for defect fixing as well as performance issue fixing.

How to do Regression Testing

In order to do Regression Testing process, we need to first debug the code to identify the bugs. Once the bugs are identified, required changes are made to fix it, then the regression testing is done by selecting relevant test cases from the test suite that covers both modified and affected parts of the code.

Software maintenance is an activity which includes enhancements, error corrections,optimization and deletion of existing features. These modifications may cause the system to work incorrectly. Therefore, Regression Testing becomes necessary.

Regression Test Selection

Regression Test Selection is a technique in which some selected test cases from test suite are executed to test whether the modified code affects the software application or not. Test cases are categorized into two parts, reusable test cases which can be used in further regression cycles and obsolete test cases which can not be used in succeeding cycles

Program :

Calculator.java

```
package regression;
public class Calculator {
    public int add(int a, int b) {
        return a + b;
    }
```

```
    public int subtract(int a, int b) {
        return a - b;
    }
       public int multiply(int a, int b) {
        return a * b;
    }
}
```

RegressionTest.java

```
package regression;
import org.testng.Assert;
import org.testng.annotations.Test;
public class RegressionTest {
    Calculator calc = new Calculator();
       @Test(priority = 1)
    public void testAddition() {
        Assert.assertEquals(calc.add(10, 5), 15);
        System.out.println("Addition test passed!");
    }
    @Test(priority = 2)
    public void testSubtraction() {
        Assert.assertEquals(calc.subtract(10, 5), 5);
        System.out.println("Subtraction test passed!");
    }
    // New test case added after modification
    @Test(priority = 3)
    public void testMultiplication() {
        Assert.assertEquals(calc.multiply(10, 5), 50);
        System.out.println("Multiplication test passed!");
    }
}
```

Output -

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