Practical No. 12 Implementing Validation Checks and Regression Testing

Date: _____

Aim:

To learn how to perform validation checks and regression testing.

Theory:

Validation Checks: Validation checks are tests performed to ensure that a software application meets specified requirements and behaves as expected. These checks verify whether the output of a function or the state of the application aligns with the intended design and user requirements. Validation can include:

- **Functional Validation**: Ensuring that features work as intended.
- **Boundary Checks**: Testing the limits of input values.
- **Business Rule Validation**: Confirming that the application adheres to defined business rules.

Regression Testing: Regression testing is performed to confirm that recent changes or enhancements in the software do not adversely affect existing functionality. The goal is to detect any regressions (i.e., unintended side effects) introduced by new code changes. This is typically done by rerunning previously executed tests and ensuring that they still pass.

Implementation

1. Create a TestNG test class to validate a www.google.com. Validate the page title using Assertions.

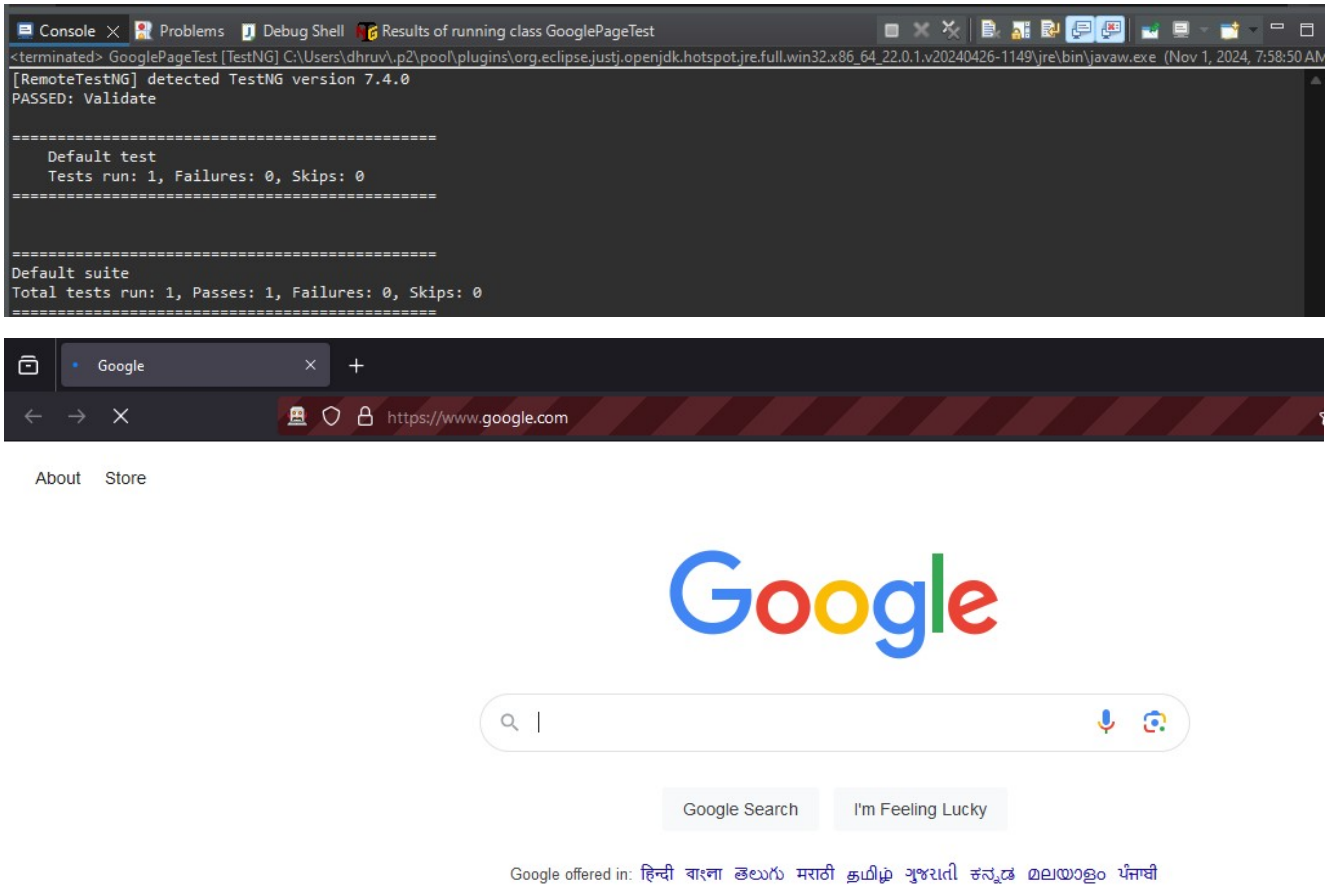
   GooglePageTest.java:

   package demo;

```
import org.testng.annotations.Test;
import org.testng.annotations.BeforeClass;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.firefox.FirefoxDriver;
import org.testng.Assert;
import org.testng.annotations.AfterSuite;
```

```
public class GooglePageTest {
    WebDriver driver;
 @Test
 public void Validate() {
      String expectedTitle = "Google";
      String actualTitle = driver.getTitle();

      Assert.assertEquals(expectedTitle,actualTitle,"Page recived is not expected");
 }
 @BeforeClass
 public void beforeClass() {
            System.setProperty("webdriver.gecko.driver",
"D:\\Applications\\Selenium_Setup\\geckodriver.exe");
            // create web driver instance
             driver = new FirefoxDriver();

             driver.get("https://www.google.com");
 }

 @AfterSuite
 public void tearDown() throws InterruptedException {
     Thread.sleep(3000);
      if(driver != null) {
             driver.quit();
      }
 }


}
```

Output:



2. You have an existing suite of tests for an New Tour application (https://demo.guru99.com/test/newtours/). After a recent update, you need to implement regression tests to ensure that the login process continues to work as expected.

RegressionTest.java:

```
package demo;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.firefox.FirefoxDriver;
import org.testng.Assert;
import org.testng.annotations.AfterSuite;
```

```
import org.testng.annotations.BeforeTest;
import org.testng.annotations.Test;



public class RegressionTest {
        WebDriver driver;
 @BeforeTest
 public void setup() {
System.setProperty("webdriver.gecko.driver",
"D:\\Applications\\Selenium_Setup\\geckodriver.exe");
                // create web driver instance
                 driver = new FirefoxDriver();
                 driver.manage().window().maximize();

                 driver.get("https://demo.guru99.com/test/newtours/");
 }
 @Test(priority = 1, groups = {"regression"})
 public void verifyTitle() {
          String pageTitle = driver.getTitle();
          Assert.assertEquals(pageTitle, "Welcome: Mercury Tours", "Page Title dosen't match");

 }

 @Test(priority = 2, groups = {"regression"})
 public void verifyLogin() {
           WebElement username = driver.findElement(By.name("userName"));
                username.sendKeys("mercury");

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

                WebElement submit = driver.findElement(By.name("submit"));
```

```
                submit.click();
 }

 @AfterSuite
 public void tearDown() {
        if(driver != null) {
                driver.quit();
        }
 }
}
```

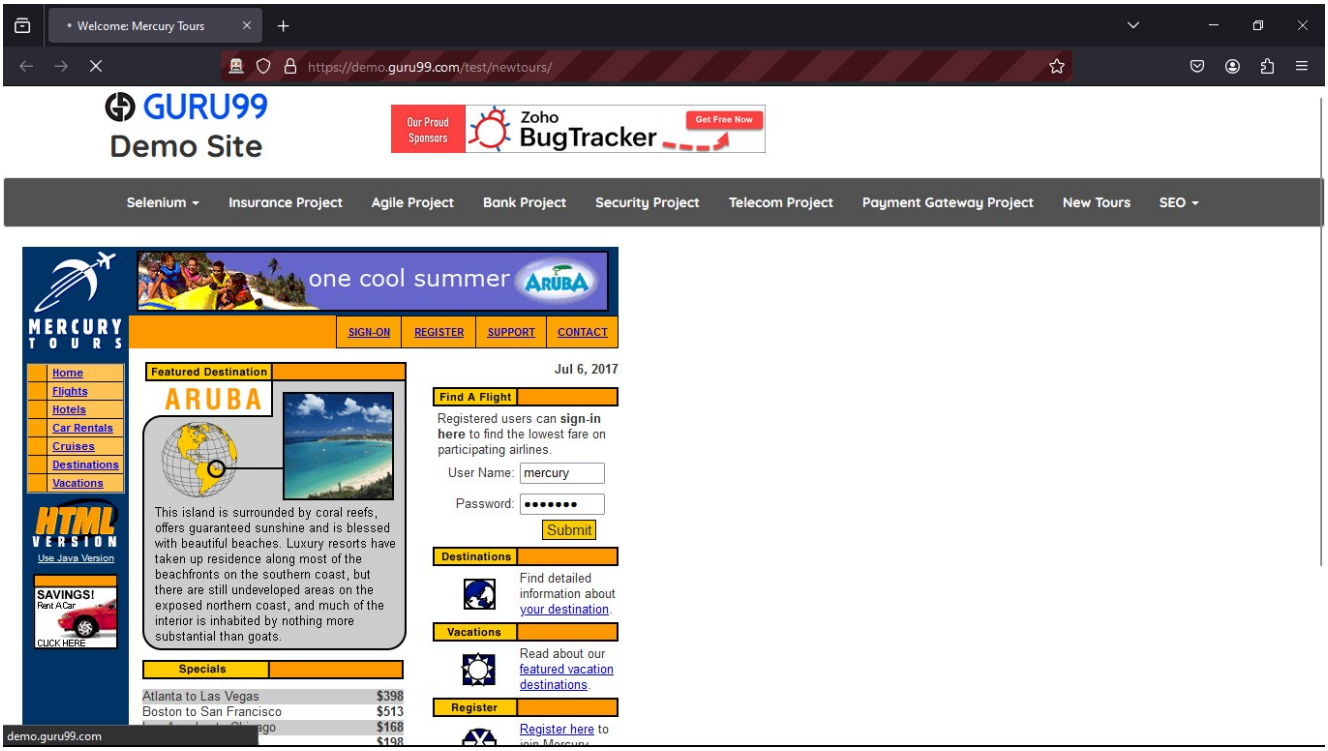
Testng-regression.xml:

```
<suite name="Regression  Suite">
        <test name="Regression Test">
                <classes>
                        <class name="demo.RegressionTest"/>
                </classes>
        </test>
</suite>
```

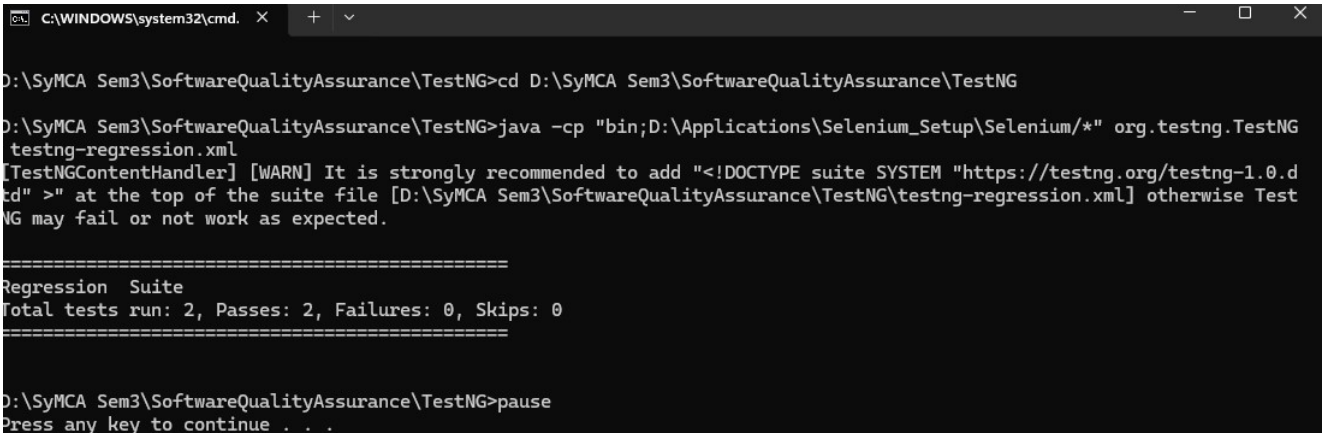
Regression.bat:

```
cd D:\SyMCA Sem3\SoftwareQualityAssurance\TestNG
java -cp "bin;D:\Applications\Selenium_Setup\Selenium/*" org.testng.TestNG testng-regression.xml
Pause
```

Output:


Welcome: Mercury Tours
https://demo.guru99.com/test/newtours/
GURU99
Demo Site
Our Proud Sponsors
Zoho BugTracker
Get Free Now
Selenium
Insurance Project
Agile Project
Bank Project
Security Project
Telecom Project
Payment Gateway Project
New Tours
SEO
one cool summer
ARUBA
MERCURY TOURS
SIGN-ON
REGISTER
SUPPORT
CONTACT
Home
Flights
Hotels
Car Rentals
Cruises
Destinations
Vacations
Featured Destination
ARUBA
Jul 6, 2017
Find A Flight
Registered users can sign-in here to find the lowest fare on participating airlines.
User Name: mercury
Password:
Submit
This island is surrounded by coral reefs, offers guaranteed sunshine and is blessed with beautiful beaches. Luxury resorts have taken up residence along most of the beachfronts on the southern coast, but there are still undeveloped areas on the exposed northern coast, and much of the interior is inhabited by nothing more substantial than goats.
Destinations
Find detailed information about your destination
Vacations
Read about our featured vacation destinations.
Register
Register here to
Specials
Atlanta to Las Vegas $398
Boston to San Francisco $513
HTML VERSION
Use Java Version
SAVINGS!
Rent A Car
CLICK HERE
demo.guru99.com

one cool summer
ARUBA
SIGN-OFF
REGISTER
SUPPORT
CONTACT
Login Successfully
Thank you for Loggin.
© 2005, Mercury Interactive (v. 011003-1.01-058)


C:\WINDOWS\system32\cmd.
D:\SyMCA Sem3\SoftwareQualityAssurance\TestNG>cd D:\SyMCA Sem3\SoftwareQualityAssurance\TestNG
D:\SyMCA Sem3\SoftwareQualityAssurance\TestNG>java -cp "bin;D:\Applications\Selenium_Setup\Selenium/*" org.testng.TestNG testng-regression.xml
[TestNGContentHandler] [WARN] It is strongly recommended to add "<!DOCTYPE suite SYSTEM "https://testng.org/testng-1.0.dtd" >" at the top of the suite file [D:\SyMCA Sem3\SoftwareQualityAssurance\TestNG\testng-regression.xml] otherwise TestNG may fail or not work as expected.
Regression Suite
Total tests run: 2, Passes: 2, Failures: 0, Skips: 0
D:\SyMCA Sem3\SoftwareQualityAssurance\TestNG>pause
Press any key to continue . . .

Conclusion: Learned to perform validation checks and regression testing

After performing this Practical/lab, students are expected to answer following questions

Q.1 What are Assertions?

Q.2 What is the need of Regression Testing?