SIDDHI S. KOTRE
ROLL NO: 50

Installation of TestNG , Running TestNG and TestNG Annotations

Program 1

Aim: Demonstrate action classes in Selenium.

Theory:

Action classes in Selenium provide a way to perform complex user interactions that cannot be achieved using simple methods like click() or sendKeys(). The Actions class in Selenium allows you to simulate a user's mouse and keyboard actions programmatically.

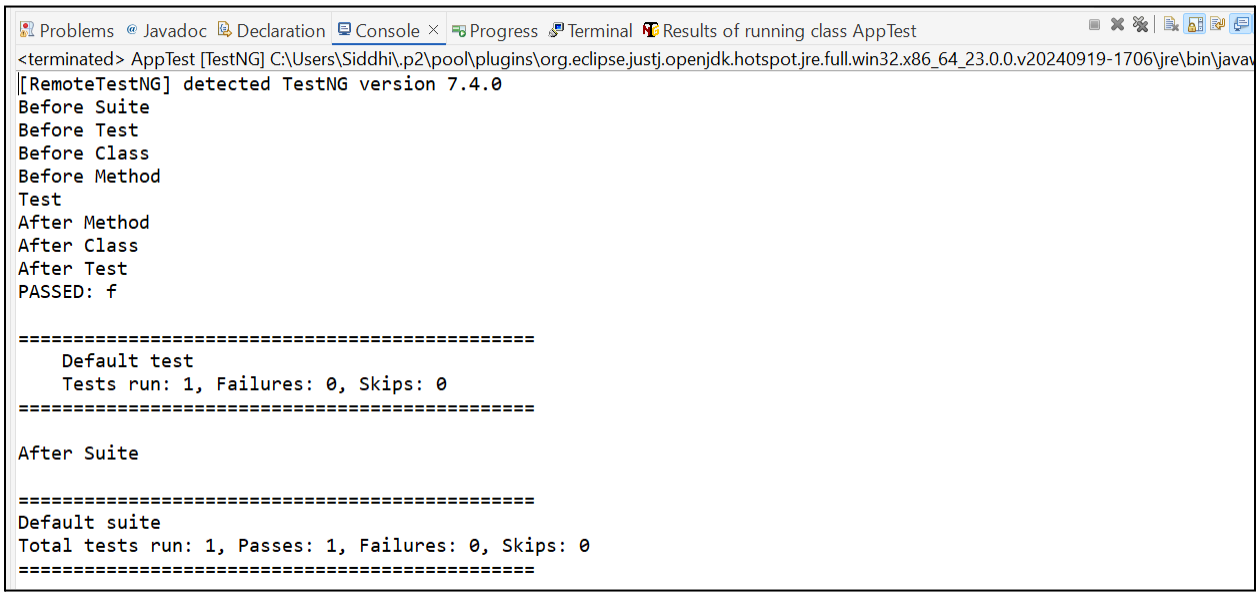
Code:

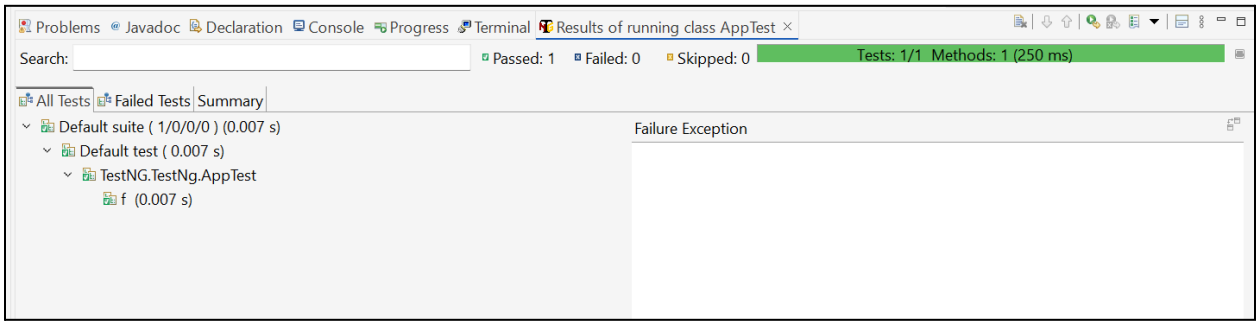
AppTest.java

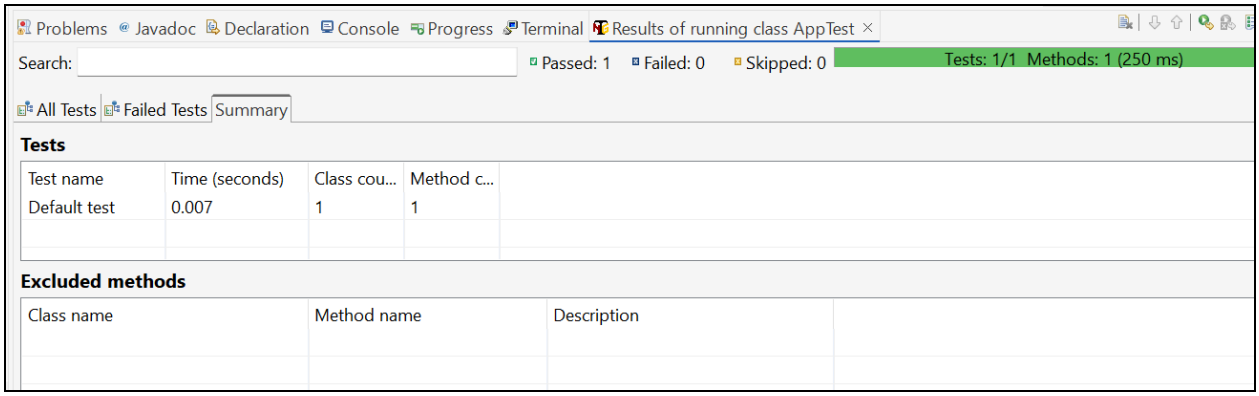
```
package TestNG.TestNg;
import org.testng.annotations.Test;
import org.testng.annotations.BeforeMethod;
import org.testng.annotations.AfterMethod;
import org.testng.annotations.BeforeClass;
import org.testng.annotations.AfterClass;
import org.testng.annotations.BeforeTest;
import org.testng.annotations.AfterTest;
import org.testng.annotations.BeforeSuite;
import org.testng.annotations.AfterSuite;

public class AppTest {
  @Test

  public void f() {
    System.out.println("Test");
  }
  @BeforeMethod
  public void beforeMethod() {
    System.out.println("Before Method");
  }
  @AfterMethod
  public void afterMethod() {
    System.out.println("After Method");
  }
  @BeforeClass
  public void beforeClass() {
    System.out.println("Before Class");
  }
  @AfterClass
  public void afterClass() {
    System.out.println("After Class");
  }
  @BeforeTest
  public void beforeTest() {
```

```
    System.out.println("Before Test");
  }
  @AfterTest
  public void afterTest() {
    System.out.println("After Test");
  }
  @BeforeSuite
  public void beforeSuite() {
    System.out.println("Before Suite");
  }
  @AfterSuite
  public void afterSuite() {
    System.out.println("After Suite");
  }
}
```

Output:






Problems
Javadoc
Declaration
Console
Progress
Terminal
Results of running class AppTest
Search:
Passed: 1
Failed: 0
Skipped: 0
Tests: 1/1 Methods: 1 (250 ms)
All Tests
Failed Tests
Summary
Tests
Test name
Time (seconds)
Class cou...
Method c...
Default test
0.007
1
1
Excluded methods
Class name
Method name
Description

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Program 2
Aim: Automate login and logout of a web app using Selenium WebDriver and TestNG.

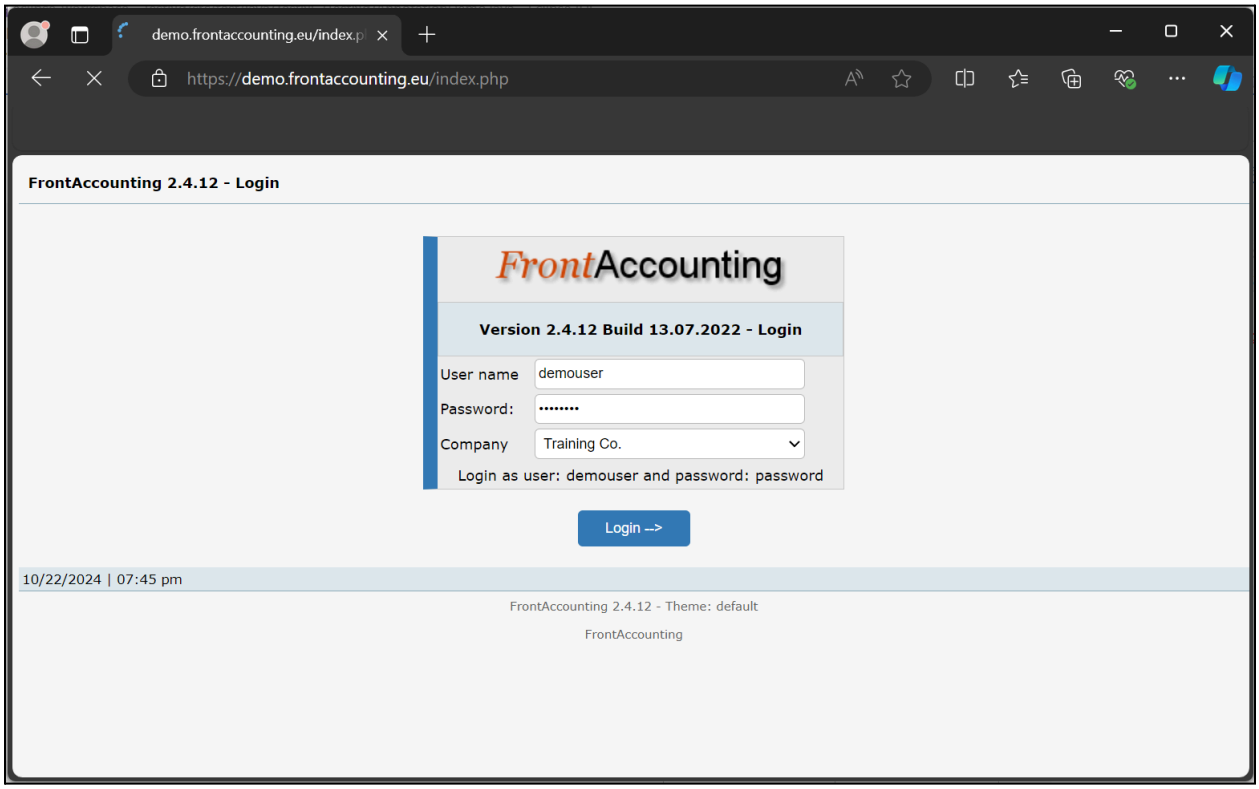
Theory:
Selenium WebDriver is a popular open-source tool that allows for automated testing of web applications. It provides a simple and concise API for controlling web browsers programmatically. Web applications often contain dynamic elements that may change their properties (like IDs or classes) during runtime. Techniques such as waiting for elements to be visible or clickable can enhance the robustness of the test scripts. Selenium provides explicit waits to handle such scenarios.

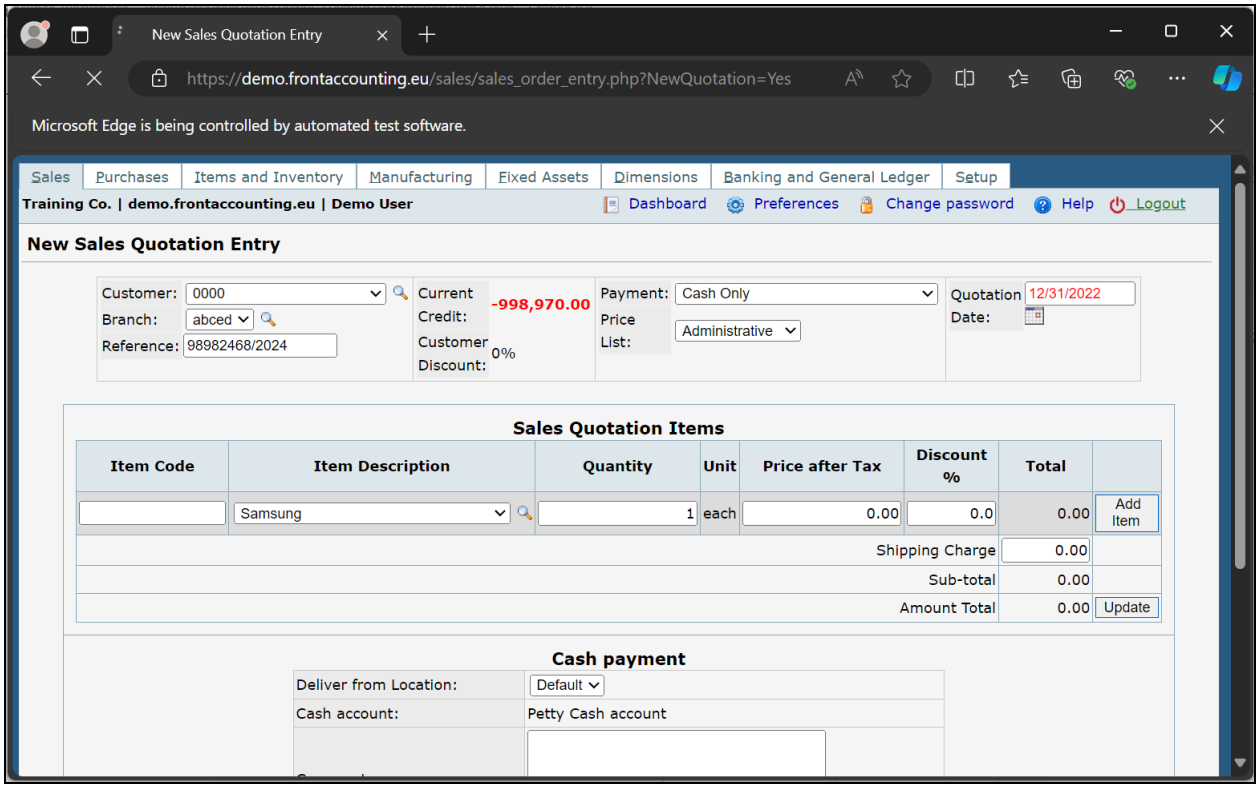
Code:
AnnotationDemo.java

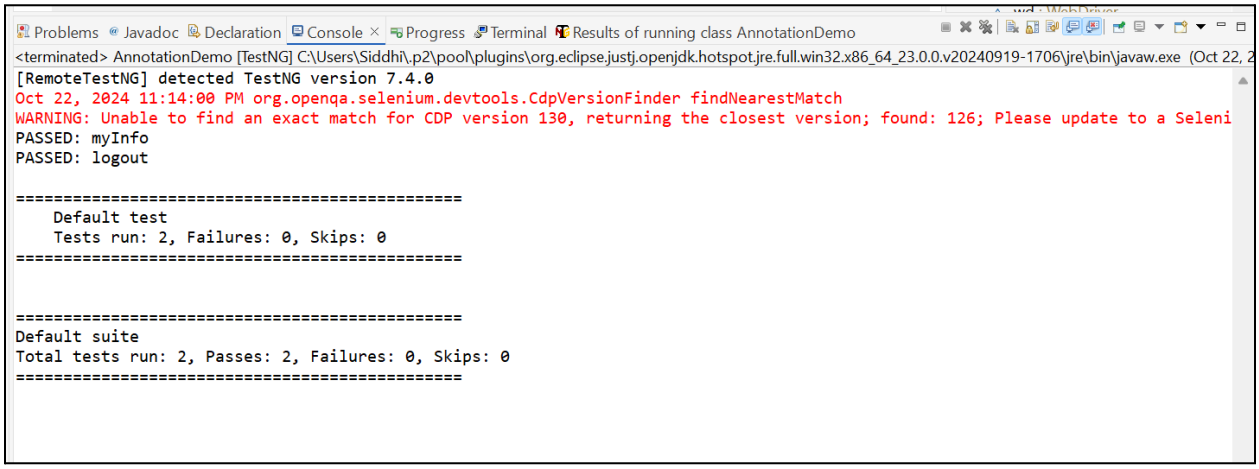
```
package TestNG.TestNg;
import org.testng.annotations.Test;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.edge.EdgeDriver; // Import EdgeDriver
import org.testng.annotations.BeforeClass;
import org.testng.annotations.BeforeSuite;
import org.testng.annotations.AfterClass;

public class AnnotationDemo {
  WebDriver wd;
  @BeforeSuite
  public void openBrowser() {
    // Set the path to the EdgeDriver executable
    System.setProperty("webdriver.edge.driver",
"C:\\Users\\Siddhi\\Downloads\\edgedriver_win64\\msedgedriver.exe"); // Update the path as
needed
    wd = new EdgeDriver(); // Use EdgeDriver instead of ChromeDriver
  }
  @BeforeClass
  public void loginOHM() {
    wd.get("http://demo.frontaccounting.eu/index.php");
    wd.findElement(By.xpath("/html/body/div/form/center[2]/input")).click(); // Locator for login
button
  }
  @Test(priority = 1)

  public void myInfo() {
    // Click on the link for "My Info"

wd.findElement(By.xpath("/html/body/table[1]/tbody/tr/td/table[1]/tbody/tr/td/div[2]/table/tbody/tr[1]
/td/table/tbody/tr[2]/td[1]/a[1]")).click();
```

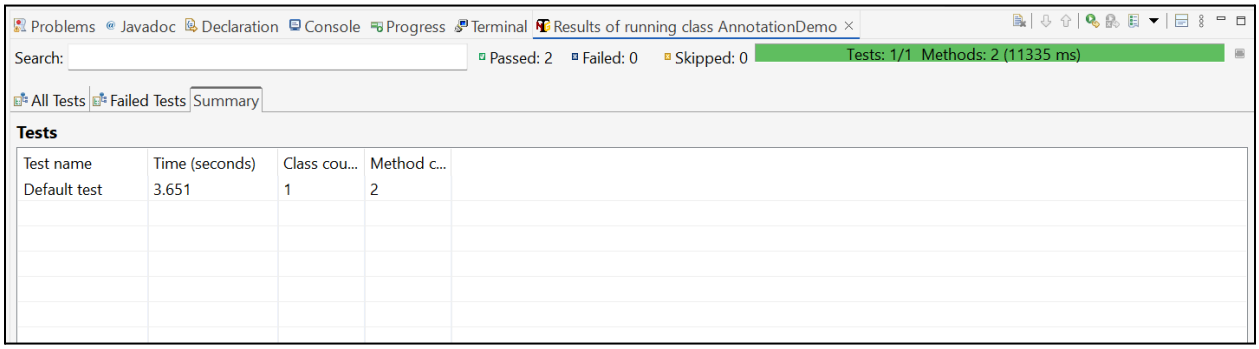
```
  }
  @Test(priority = 2)

  public void logout() {
     // Click on the logout link
     wd.findElement(By.linkText("Logout")).click();
  }
  @AfterClass
  public void tearDown() {
     // Close the browser after tests
     if (wd != null) {
        wd.quit(); // Closes the browser
     }
  }
}
```

Output:




New Sales Quotation Entry
https://demo.frontaccounting.eu/sales/sales_order_entry.php?NewQuotation=Yes
Microsoft Edge is being controlled by automated test software.
Sales
Purchases
Items and Inventory
Manufacturing
Fixed Assets
Dimensions
Banking and General Ledger
Setup
Training Co. | demo.frontaccounting.eu | Demo User
Dashboard
Preferences
Change password
Help
Logout
New Sales Quotation Entry
Customer: 0000
Branch: abced
Reference: 98982468/2024
Current Credit: -998,970.00
Customer Discount: 0%
Payment: Cash Only
Price List: Administrative
Quotation Date: 12/31/2022
Sales Quotation Items
Item Code
Item Description
Quantity
Unit
Price after Tax
Discount %
Total
Samsung
1
each
0.00
0.0
0.00
Add Item
Shipping Charge
0.00
Sub-total
0.00
Amount Total
0.00
Update
Cash payment
Deliver from Location: Default
Cash account: Petty Cash account


Problems
Javadoc
Declaration
Console
Progress
Terminal
Results of running class AnnotationDemo
<terminated> AnnotationDemo [TestNG] C:\Users\Siddhi\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_23.0.0.v20240919-1706\jre\bin\javaw.exe (Oct 22, 2
[RemoteTestNG] detected TestNG version 7.4.0
Oct 22, 2024 11:14:00 PM org.openqa.selenium.devtools.CdpVersionFinder findNearestMatch
WARNING: Unable to find an exact match for CDP version 130, returning the closest version; found: 126; Please update to a Seleni
PASSED: myInfo
PASSED: logout
Default test
Tests run: 2, Failures: 0, Skips: 0
Default suite
Total tests run: 2, Passes: 2, Failures: 0, Skips: 0


Problems
Javadoc
Declaration
Console
Progress
Terminal
Results of running class AnnotationDemo
Search:
Passed: 2
Failed: 0
Skipped: 0
Tests: 1/1 Methods: 2 (11335 ms)
All Tests
Failed Tests
Summary
Tests
Test name
Time (seconds)
Class cou...
Method c...
Default test
3.651
1
2

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Program 3

Aim: To implement Data Provider

Theory:

Data Providers in TestNG are a powerful feature that allows you to run the same test method with different sets of data. This enables efficient testing and reduces redundancy in test code, making it more maintainable and scalable. Data Providers enhance code reusability by allowing the same test logic to be applied to different inputs.They simplify the addition of new test cases; you only need to add more data to the Data Provider without duplicating the test method.

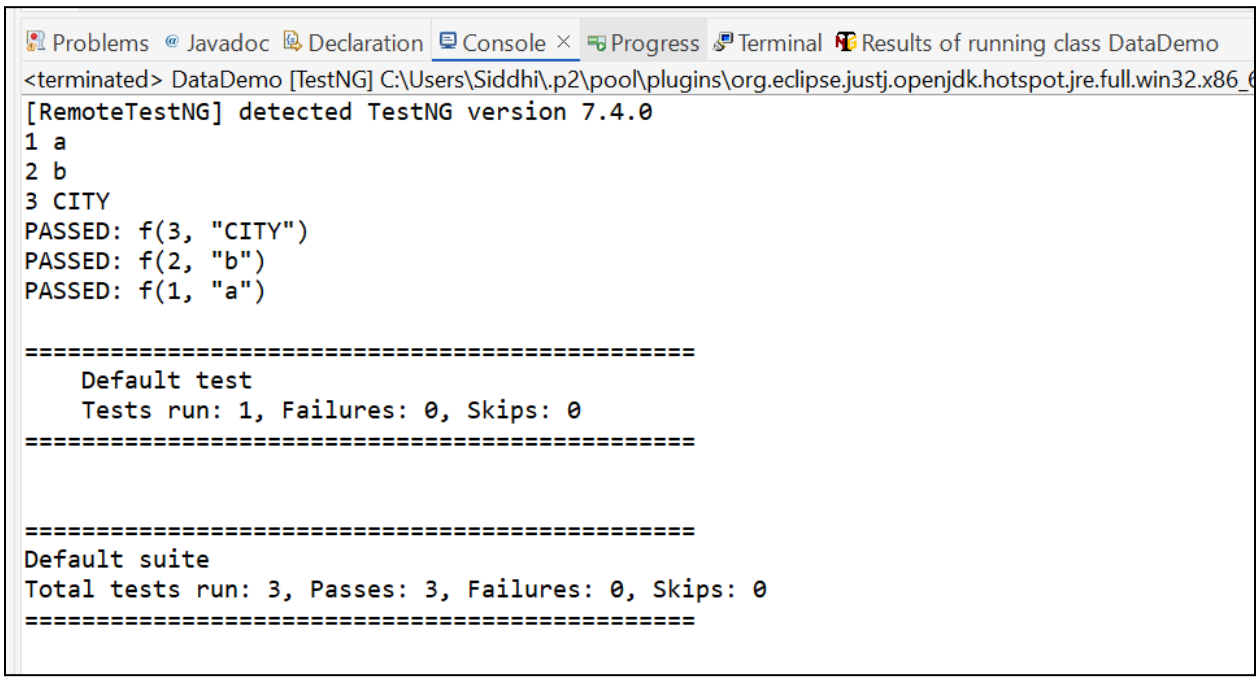
Code:

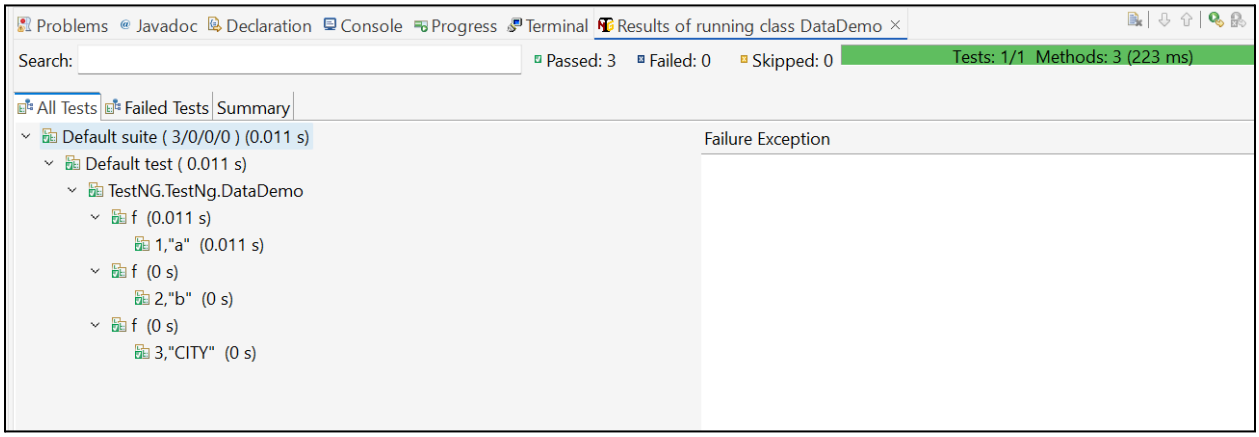
```
package TestNG.TestNg;
import org.testng.annotations.Test;
import org.testng.annotations.DataProvider;

public class DataDemo {
  @Test(dataProvider = "dp")

  public void f(Integer n, String s) {
     System.out.println(n + " " + s);
  }
  @DataProvider
  public Object[][] dp() {
     return new Object[][] {
        new Object[] { 1, "a" },
        new Object[] { 2, "b" },
        new Object[] { 3, "CITY" },
     };
  }
}
```

Output:


Problems
Javadoc
Declaration
Console
Progress
Terminal
Results of running class DataDemo
<terminated> DataDemo [TestNG] C:\Users\Siddhi\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_6
[RemoteTestNG] detected TestNG version 7.4.0
1 a
2 b
3 CITY
PASSED: f(3, "CITY")
PASSED: f(2, "b")
PASSED: f(1, "a")
Default test
Tests run: 1, Failures: 0, Skips: 0
Default suite
Total tests run: 3, Passes: 3, Failures: 0, Skips: 0


Problems
Javadoc
Declaration
Console
Progress
Terminal
Results of running class DataDemo
Search:
Passed: 3
Failed: 0
Skipped: 0
Tests: 1/1 Methods: 3 (223 ms)
All Tests
Failed Tests
Summary
Default suite (3/0/0/0) (0.011 s)
Default test (0.011 s)
TestNG.TestNg.DataDemo
f (0.011 s)
1,"a" (0.011 s)
f (0 s)
2,"b" (0 s)
f (0 s)
3,"CITY" (0 s)
Failure Exception

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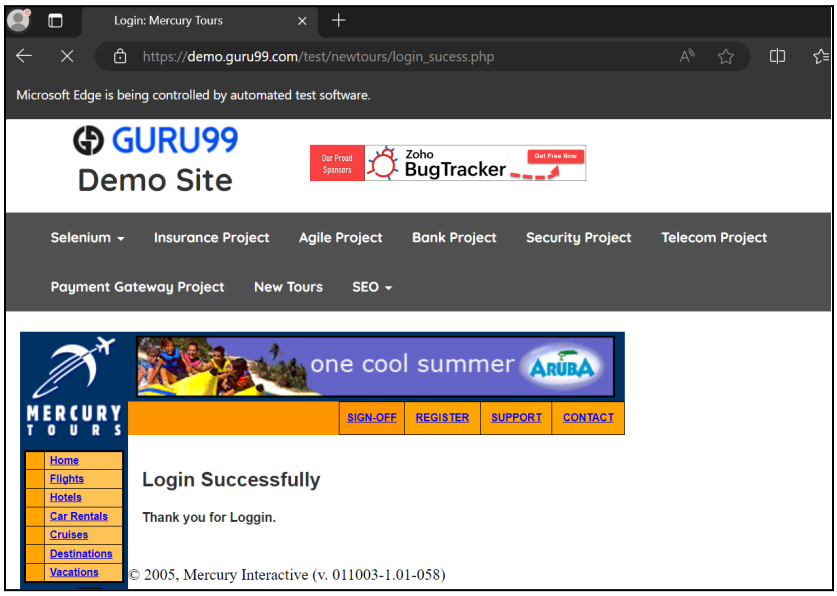
Program 4
Aim: Data Provider implement in Application
Theory:
Data Providers in TestNG enable the execution of a single test method with multiple sets of parameters, enhancing the testing process by promoting reusability and efficiency. By defining a method annotated with @DataProvider, you can supply different data inputs to your test cases, allowing for comprehensive validation of application functionality.
Code:

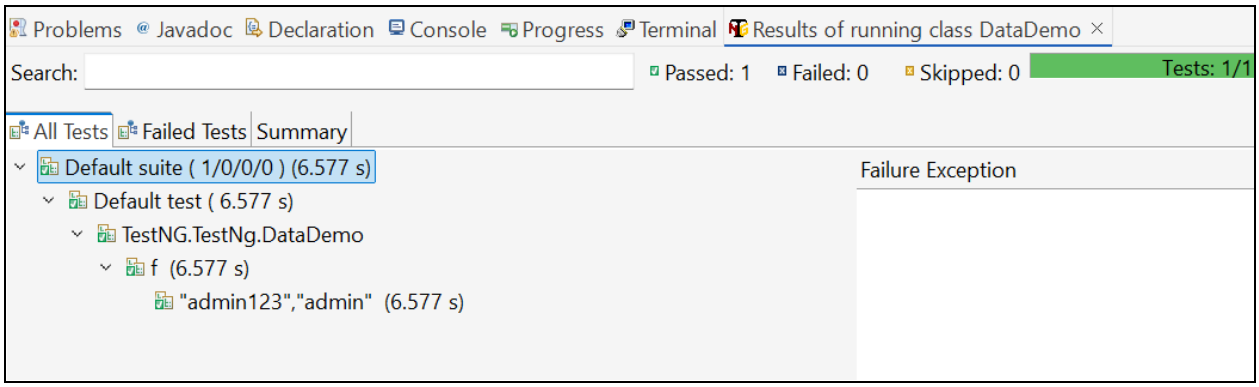
```
package TestNG.TestNg;
import org.testng.annotations.Test;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.edge.EdgeDriver;
import org.testng.annotations.DataProvider;

public class DataDemo {
  @Test(dataProvider = "dp")

  public void f(String u, String p) {
    // Set the path to the ChromeDriver executable
        System.setProperty("webdriver.edge.driver",
"C:\\Users\\Siddhi\\Downloads\\edgedriver_win64\\msedgedriver.exe"); // Update the path as
needed
        WebDriver wd = new EdgeDriver();

    try {

      wd.get("https://demo.guru99.com/test/newtours/");


      wd.findElement(By.name("userName")).sendKeys(u);
      wd.findElement(By.name("password")).sendKeys(p);
      wd.findElement(By.name("submit")).click();

      // Attempt to click the logout button

wd.findElement(By.xpath("/html/body/div[2]/table/tbody/tr/td[2]/table/tbody/tr[2]/td/table/tbody/tr/td
[1]/a")).click();
        System.out.println("Pass");
    } catch (Exception e) {
      System.out.println("Fail");
    } finally {
      // Close the browser
      wd.quit();
    }
  }
  @DataProvider
```

```
  public Object[][] dp() {
    return new Object[][] {
      new Object[] {"admin123", "admin"},
    };
  }
}
```

Output:




```
Problems  Javadoc  Declaration  Console  Progress  Terminal  Results of running class DataDemo
<terminated> DataDemo [TestNG] C:\Users\Siddhi\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_23.0.0.v20240919
[RemoteTestNG] detected TestNG version 7.4.0
Oct 22, 2024 11:23:16 PM org.openqa.selenium.devtools.CdpVersionFinder findNearestMatch
WARNING: Unable to find an exact match for CDP version 130, returning the closest version; found: 126
Pass
PASSED: f("admin123", "admin")

===============================================
    Default test
    Tests run: 1, Failures: 0, Skips: 0
===============================================


===============================================
Default suite
Total tests run: 1, Passes: 1, Failures: 0, Skips: 0
===============================================
```


Problems
Javadoc
Declaration
Console
Progress
Terminal
Results of running class DataDemo
Search:
Passed: 1
Failed: 0
Skipped: 0
Tests: 1/1
All Tests
Failed Tests
Summary
Default suite (1/0/0/0) (6.577 s)
Default test (6.577 s)
TestNG.TestNg.DataDemo
f (6.577 s)
"admin123","admin" (6.577 s)
Failure Exception