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M.C.A Semester – III

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| Roll No : | 1266 |
| Name of Student : | Aman Verma |
| Subject : | MCAL35 Software Testing & Quality Assurance Lab |
| Module: | 4 |
| Date: | 04-11-2022 |

Q. 1) Demonstrate using TestNG framework different annotations (before method, after method, before class, after class, before test, after test, before suite and after suite) using Selenium webdriver.

Source code:

```
package 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 MyTest {
    @Test
    public void f() {
        System.out.println("Test");
    }
    @Test
    public void f1() {
        System.out.println("Test1");
    }
    @Test
    public void a() {
```



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```
        System.out.println("Test3");
    }
    @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 Suit");
    }
}
```



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}

Output:

```
Console X
<terminated> MyTest [TestNG] C:\Users\helpdesk\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64
Test
After Method
Before Method
Test1
After Method
After Class
After Test
PASSED: f1
PASSED: f
PASSED: a

=====
    Default test
    Tests run: 3, Failures: 0, Skips: 0
=====

After Suit

=====
Default suite
Total tests run: 3, Passes: 3, Failures: 0, Skips: 0
=====
```

Q. 2) Demonstrate using TestNG framework data provider annotation using Selenium webdriver.

Source code:

DataDemo.java

```
package 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
```



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```
public Object[][] dp() {  
    return new Object[][] {  
        new Object[] { 1, "Aman" },  
        new Object[] { 2, "Verma" },  
        new Object[] { 22, "Tamo" },  
    };  
}
```

Output:

```
<terminated> DataDemo [TestNG] C:\Users\helpdesk\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_17.0.2.v2022  
[RemoteTestNG] detected TestNG version 7.4.0  
1 Aman  
2 Verma  
22 Tamo  
PASSED: f(1, "Aman")  
PASSED: f(22, "Tamo")  
PASSED: f(2, "Verma")  
  
=====  
Default test  
Tests run: 1, Failures: 0, Skips: 0  
=====  
  
=====  
Default suite  
Total tests run: 3, Passes: 3, Failures: 0, Skips: 0  
=====
```

Q. 3) Demonstrate using TestNG framework data provider annotation for login process of <https://opensource-demo.orangehrmlive.com/> using Selenium webdriver. Try login with valid and invalid credentials and check the test results.

Source code:

DataIHOM.java

```
package TestNG;  
  
import org.testng.annotations.Test;  
  
import java.util.concurrent.TimeUnit;
```



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```
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeDriver;
import org.openqa.selenium.support.ui.ExpectedConditions;
import org.openqa.selenium.support.ui.WebDriverWait;
import org.testng.annotations.AfterSuite;
import org.testng.annotations.BeforeSuite;
import org.testng.annotations.DataProvider;

public class DataIOHM {

    WebDriver wd;

    @Test(dataProvider = "dp")
    public void f(String un, String pw) throws InterruptedException {

        System.out.println(un + " " + pw);

        wd.findElement(By.name("username")).sendKeys(un);
        wd.findElement(By.name("password")).sendKeys(pw.toString());
        wd.findElement(By.cssSelector("button[type=submit]")).click();

        WebDriverWait wt = new WebDriverWait(wd,10);
        wt.until(ExpectedConditions.visibilityOfAllElementsLocatedBy(By.xpath("//*[@id=\"app\"]/div[1]/div[1]/header/div[1]/div[2]/ul/li/span/p")));
        wd.findElement(By.xpath("//*[@id=\"app\"]/div[1]/div[1]/header/div[1]/div[2]/ul/li/span/p")).click();
        wd.findElement(By.linkText("Logout")).click();

    }

    @BeforeSuite
    public void beforeSuite() {
        System.out.println("Before Suite");

        System.setProperty("webdriver.chrome.driver","D:\\Selenium\\chromedriver.exe");
        wd = new ChromeDriver();
```



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```
wd.manage().window().maximize();  
wd.get("https://opensource-demo.orangehrmlive.com/web/index.php/auth/login");
```

```
wd.manage().timeouts().implicitlyWait(5, TimeUnit.SECONDS);  
}
```

```
@AfterSuite  
public void afterSuite() {  
    System.out.println("After Suite");  
}
```

```
wd.quit();  
}
```

```
@DataProvider  
public Object[][] dp() {  
    return new Object[][] {  
        new Object[] { "Admin", "admin123" },  
        new Object[] { "Admin", "abc" },  
    };  
}
```

Output:



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```
Console X
<terminated> DataIOHM [TestNG] C:\Users\helpdesk\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_17.0.2.v20220201-1208\jre\bin\javaw.exe (04-Nov-2022, 3:38:43)
[RemoteTestNG] detected TestNG version 7.4.0
Before Suite
Starting ChromeDriver 107.0.5304.62 (1eec40d3a5764881c92085aaee66d25075c159aa-refs/branch-heads/5304@{#942})
Only local connections are allowed.
Please see https://chromedriver.chromium.org/security-considerations for suggestions on keeping ChromeDriver up to date.
ChromeDriver was started successfully.
Nov 04, 2022 3:38:49 PM org.openqa.selenium.remote.ProtocolHandshake createSession
INFO: Detected dialect: W3C
Admin admin123
Admin abc
PASSED: f("Admin", "admin123")
FAILED: f("Admin", "abc")
org.openqa.selenium.TimeoutException: Expected condition failed: waiting for visibility of all elements located by: {visibility}
Build info: version: '3.141.59', revision: 'e82be7d358', time: '2018-11-14T08:25:48'
System info: host: 'ASTRA61', ip: '192.168.31.101', os.name: 'Windows 7', os.arch: 'amd64', os.version: '6.1'
Driver info: org.openqa.selenium.chrome.ChromeDriver
Capabilities {acceptInsecureCerts: false, browserName: chrome, browserVersion: 107.0.5304.88, chrome: {chromeVersion: 107.0.5304.88}, platformName: windows}
Session ID: 047ca3b2dcd03571a75c1803f6d875fb
    at org.openqa.selenium.support.ui.WebDriverWait.timeoutException(WebDriverWait.java:95)
    at org.openqa.selenium.support.ui.FluentWait.until(FluentWait.java:272)
    at TestNG.DataIOHM.f(DataIOHM.java:32)
    at java.base/jdk.internal.reflect.NativeMethodAccessorImpl.invoke0(Native Method)
    at java.base/jdk.internal.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.java:77)
    at java.base/jdk.internal.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorImpl.java:43)
    at java.base/java.lang.reflect.Method.invoke(Method.java:568)
    at org.testng.remote.RemoteTestNG.main(RemoteTestNG.java:77)
```

```
at org.testng.remote.RemoteTestNG.main(RemoteTestNG.java:77)
```

```
=====
Default test
```

```
Tests run: 1, Failures: 1, Skips: 0
=====
```

```
After Suite
```

```
=====
Default suite
```

```
Total tests run: 2, Passes: 1, Failures: 1, Skips: 0
=====
```



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