1. Understand the Automation Testing Approach (Theory Concept)

Introduction:

What is Automation?

- Automation is making a process automatic, eliminating the need for human intervention.
- Is a self-controlling or self-moving process.
  - Automation software offers automation wizard and commands of its own in addition to providing task recording and re-play capabilities.
  - Using these tools we can record the task
  - Then if needed use the editor to edit the task, add new commands or using GUI automation wizards

Benefits of Automation

Fast: test automation runs faster than human users

Reliable: it performs precisely the same operations at each time elimination human errors

Repeatable: It performs the same operation with different combination of data in a less time

Programmable: We can use sophisticated tests that brings out hidden information

Reusable: We can develop reusable components which can run on different versions of application under test

Regression testing: easy to conduct regression test

Enabling 24*7 testing: test can be schedule and supports unattended recovery

Robust Verification: Support robust verification mechanism than any other testing tools

What Tests should be Automated?

- Tests executed for each software build
- tests which can be easily automated
- Business critical tests
- tests that are difficult to perform manually

Test artefacts (tools):

Requirements: the requirements that are being tested are stored into the repository. This feature enables us to map the requirements to test cases and test scripts.

Test Plan: Design the tests and build the test plan on it using the test management tool. The test plan will be maintained in a central repository. This will help to produce reusable tests cases in future. The information is sharable and preserved.

Test case: Contains description of test case and test steps.

Test script: Automated test script associated with each test case will be stored in the quality centre repository.

Test sets: this will be a set of selected test cases and associated test scripts. The tests sets are executed from the quality centre onto remote machines. The status of each execution is stored in the respective test case execution status. The status can be either pass/fail, it doesn.t maintain exact details of execution.

Test logs: The test script execution logs are stored in global repository. It contains the status of each test case.

Reusable components: The repetitive functions that are invoked in most of the functions are stored, which reduces the coding redundancies.

Object repository: contains the declaration of the application objects.
Data sheets: contains the test data used for execution. it can be populated by the database or manually.

Automation Activity:

Record the application GUI
Write Script
Execute script
Review the script
Modify script if any changes.
Execute scripts on at least two machines
Store the script in central repository
Execute the script from central repository
Verify the execution status in central repository
Verify the test logs on common server
Prepare the test reports

2. Using Selenium IDE, Write a test suite containing minimum 4 test cases

- Download Selenium IDE 1.5 or above from http://seleniumhq.org/download/ from firefox browser.
- For more information refer the link http://seleniumhq.org/docs/book/Selenium_Documentation.pdf
- The webpage used in this example is a 3rd semester IS/CS Web Design part2-java Script program 'Menu Driven Arithmetic Operations'

Test Suite
add
subtract
multiply
divide

Test case 1

add		
open	file:///C:/Users/Savitha/Desktop/java%20script/Arithmatic%20operation.html	
assertTitle	Arithmatic Operation	
type	name=n1	10
type	name=n2	20
click	css=input[type="button"]	
storeValue	name=result	addresult
echo	' Addition Result =${addresult}'	

Test case 2

subtract		
open	file:///C:/Users/Savitha/Desktop/java%20script/Arithmatic%20operation.html	
assertTitle	Arithmatic Operation	
type	name=n1	50
type	name=n2	40
click	//input[@value='Subtract']	
storeValue	name=result	subtractresult
echo	' Subtraction Result : ${subtractresult} '	

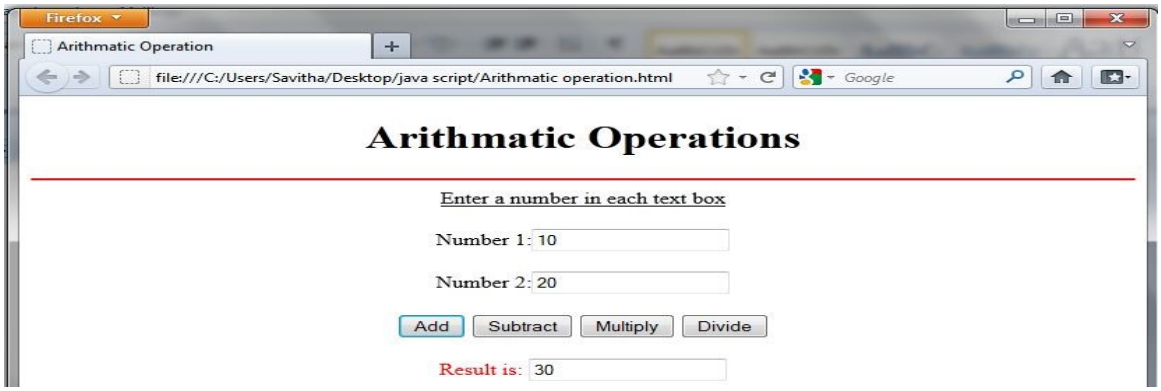
Test case 3

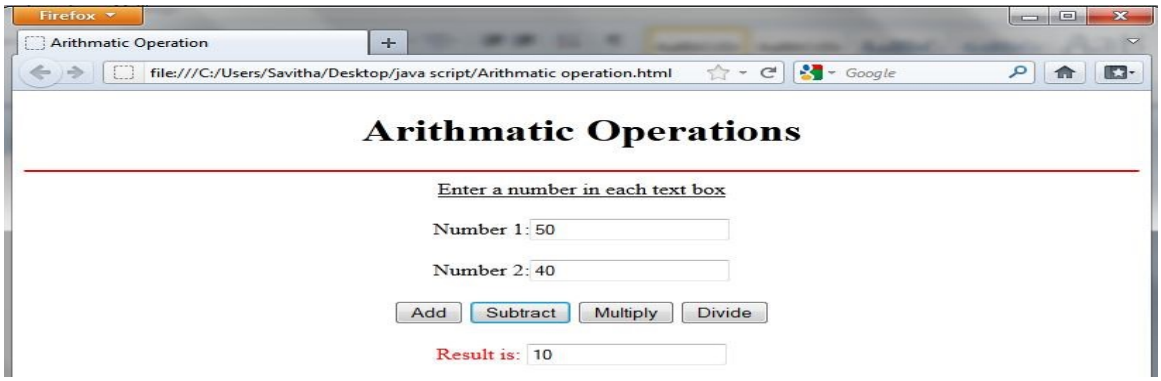
multiply		
open	file:///C:/Users/Savitha/Desktop/java%20script/Arithmatic%20operation.html	
assertTitle	Arithmatic Operation	
type	name=n1	5
type	name=n2	5
click	//input[@value='Multiply']	
storeValue	name=result	multiplyresult
echo	'Multiplication Result : ${multiplyresult} '	

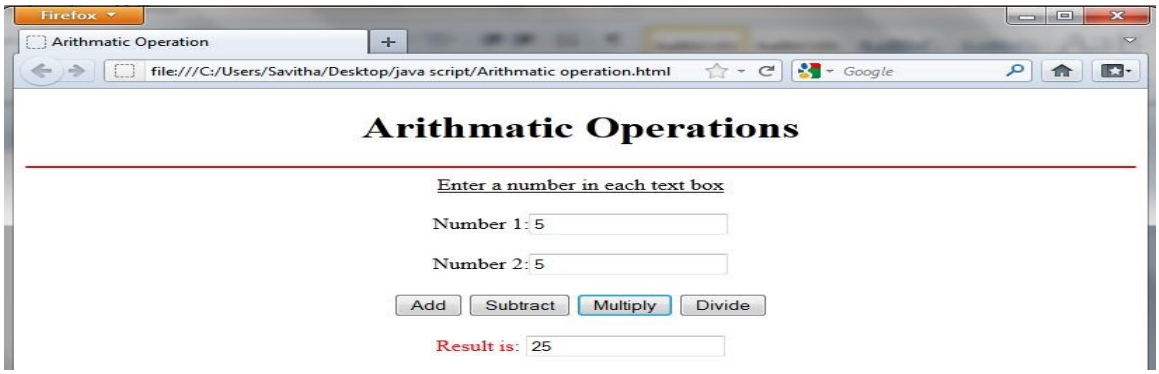
Test case 4

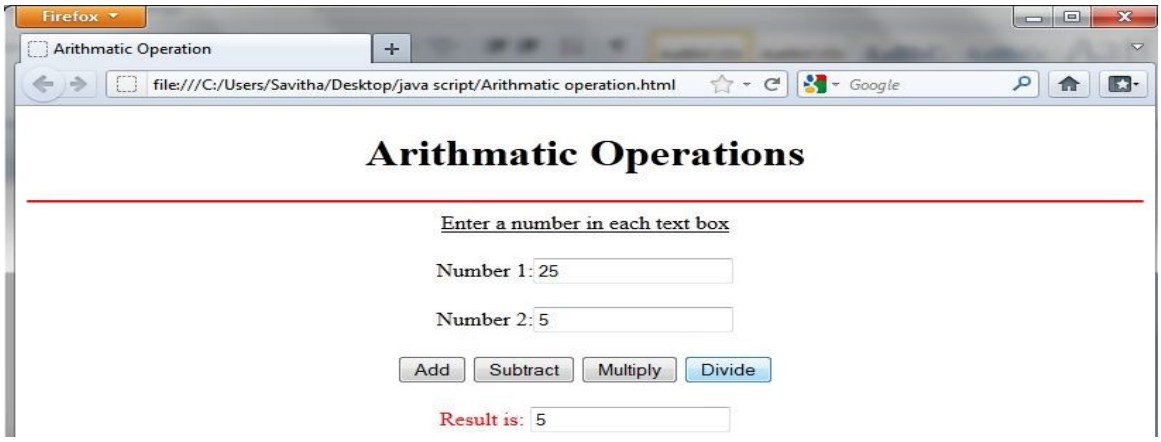
divide		
open	file:///C:/Users/Savitha/Desktop/java%20script/Arithmatic%20operation.html	
assertTitle	Arithmatic Operation	
type	name=n1	25
type	name=n2	5
click	//input[@value='Divide']	
storeValue	name=result	divresult
echo	'Division Result :${divresult}'	

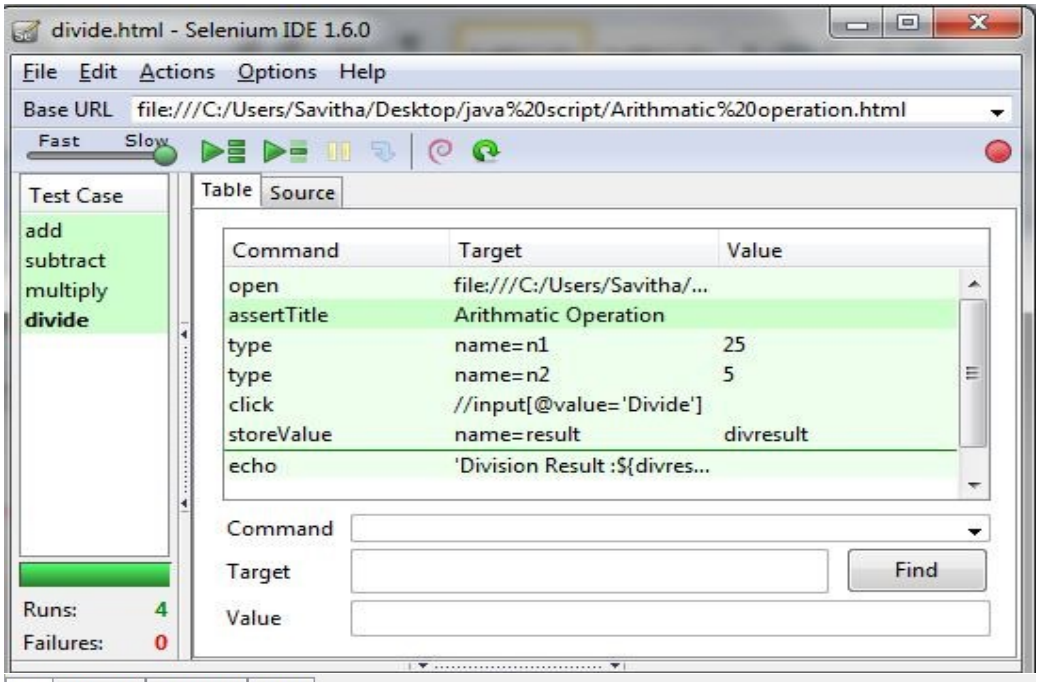
OUTPUT:


Firefox
Arithmatic Operation
file:///C:/Users/Savitha/Desktop/java script/Arithmatic operation.html
Google
Arithmatic Operations
Enter a number in each text box
Number 1: 10
Number 2: 20
Add
Subtract
Multiply
Divide
Result is: 30


Firefox
Arithmatic Operation
file:///C:/Users/Savitha/Desktop/java script/Arithmatic operation.html
Google
Arithmatic Operations
Enter a number in each text box
Number 1: 50
Number 2: 40
Add
Subtract
Multiply
Divide
Result is: 10


Firefox
Arithmatic Operation
file:///C:/Users/Savitha/Desktop/java script/Arithmatic operation.html
Google
Arithmatic Operations
Enter a number in each text box
Number 1: 5
Number 2: 5
Add
Subtract
Multiply
Divide
Result is: 25


Firefox
Arithmatic Operation
file:///C:/Users/Savitha/Desktop/java script/Arithmatic operation.html
Google
Arithmatic Operations
Enter a number in each text box
Number 1: 25
Number 2: 5
Add
Subtract
Multiply
Divide
Result is: 5



Log | Reference | UI-Element | Rollup

```
[info] Executing: |open | file:///C:/Users/Savitha/Desktop/java%20script/Arithmatic%20operation.html | |
[info] Executing: |assertTitle | Arithmatic Operation | |
[info] Executing: |type | name=n1 | 10 |
[info] Executing: |type | name=n2 | 20 |
[info] Executing: |click | css=input[type="button"] | |
[info] Executing: |storeValue | name=result | addresult |
[info] Executing: |echo | ' Addition Result =${addresult}' | |
[info] echo: ' Addition Result =30'
[info] Changed test case
[info] Executing: |open | file:///C:/Users/Savitha/Desktop/java%20script/Arithmatic%20operation.html | |
[info] Executing: |assertTitle | Arithmatic Operation | |
[info] Executing: |type | name=n1 | 50 |
[info] Executing: |type | name=n2 | 40 |
[info] Executing: |click | //input[@value='Subtract'] | |
[info] Executing: |storeValue | name=result | subtractresult |
[info] Executing: |echo | ' Subtraction Result : ${subtractresult} ' | |
[info] echo: ' Subtraction Result : 10 '
[info] Changed test case
[info] Executing: |open | file:///C:/Users/Savitha/Desktop/java%20script/Arithmatic%20operation.html | |
[info] Executing: |assertTitle | Arithmatic Operation | |
[info] Executing: |type | name=n1 | 5 |
[info] Executing: |type | name=n2 | 5 |
[info] Executing: |click | //input[@value='Multiply'] | |
[info] Executing: |storeValue | name=result | multiplyresult |
[info] Executing: |echo | 'Multiplication Result : ${multiplyresult} ' | |
[info] echo: 'Multiplication Result : 25 '
[info] Changed test case
[info] Executing: |open | file:///C:/Users/Savitha/Desktop/java%20script/Arithmatic%20operation.html | |
[info] Executing: |assertTitle | Arithmatic Operation | |
[info] Executing: |type | name=n1 | 25 |
[info] Executing: |type | name=n2 | 5 |
[info] Executing: |click | //input[@value='Divide'] | |
[info] Executing: |storeValue | name=result | divresult |
[info] Executing: |echo | 'Division Result :${divresult}' | |
[info] echo: 'Division Result :5'
```

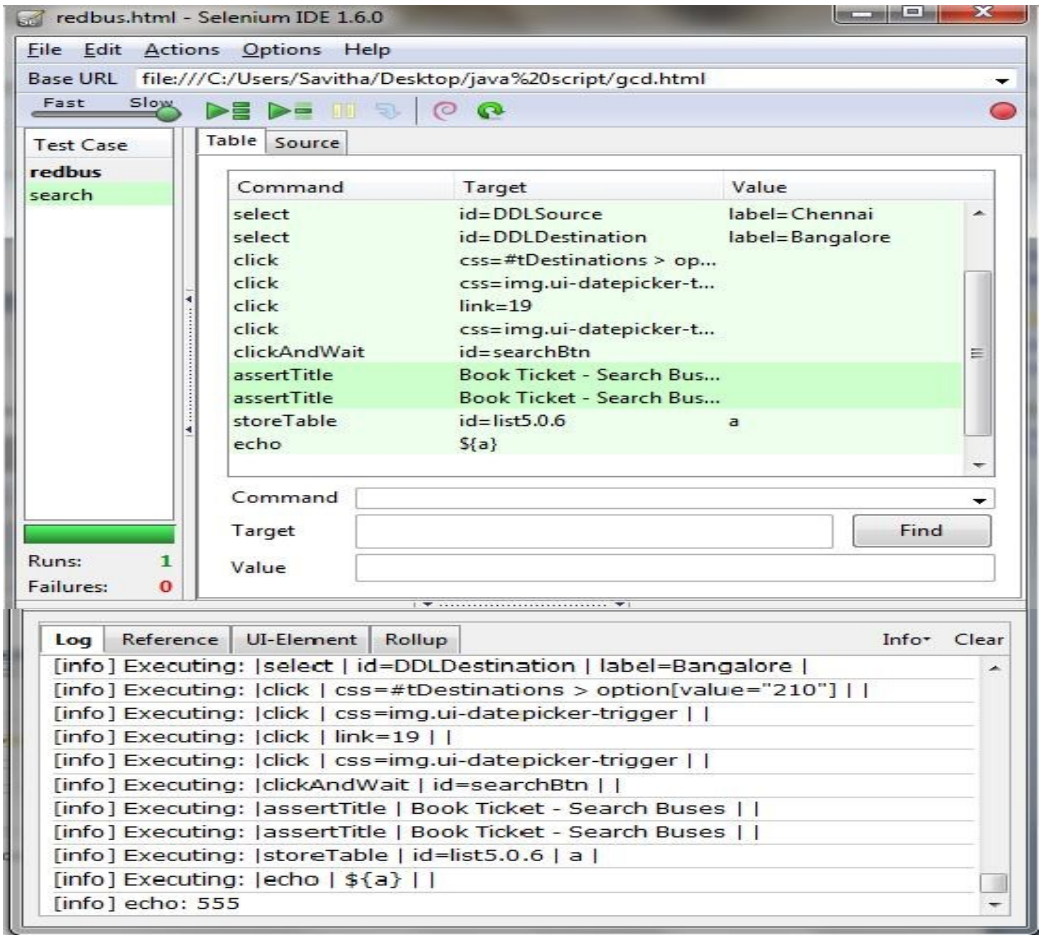
3. Conduct a test suite for any two web sites

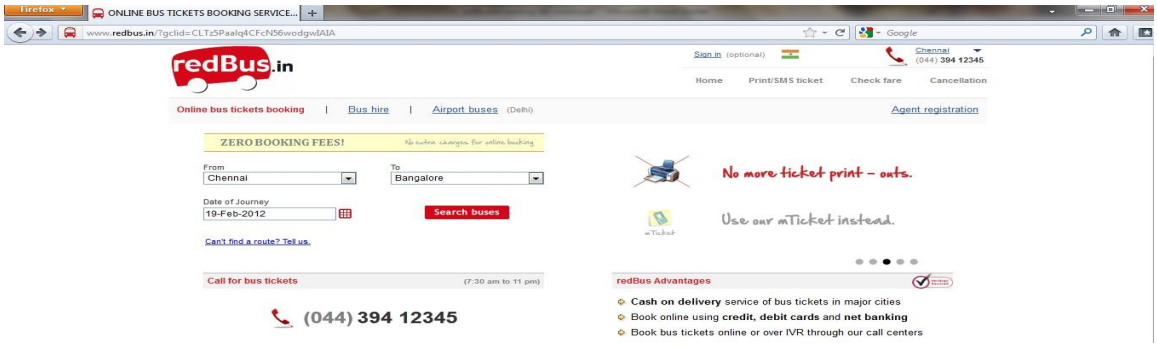
Test Suite
redbus
search

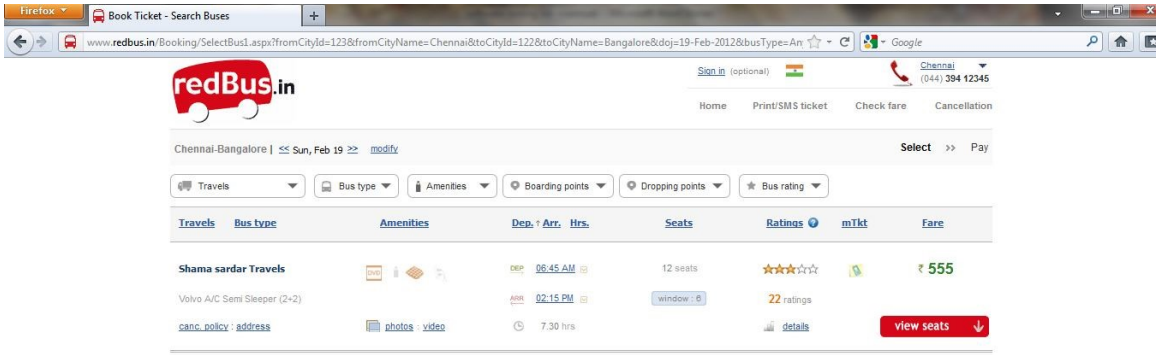
redbus		
open	http://www.redbus.in/?gclid=CLTz5Paalq4CFcN56wodgwIAIA	
assertTitle	ONLINE BUS TICKETS BOOKING SERVICE » ONLINE BUS TICKET RESERVATION	
click	id=DDLSource	
select	id=DDLSource	label=Chennai
select	id=DDLDestination	label=Bangalore
click	css=#tDestinations > option[value="210"]	
click	css=img.ui-datepicker-trigger	
click	link=19	
click	css=img.ui-datepicker-trigger	
clickAndWait	id=searchBtn	
assertTitle	Book Ticket - Search Buses	
assertTitle	Book Ticket - Search Buses	
storeTable	id=list5.0.6	a
echo	${a}	

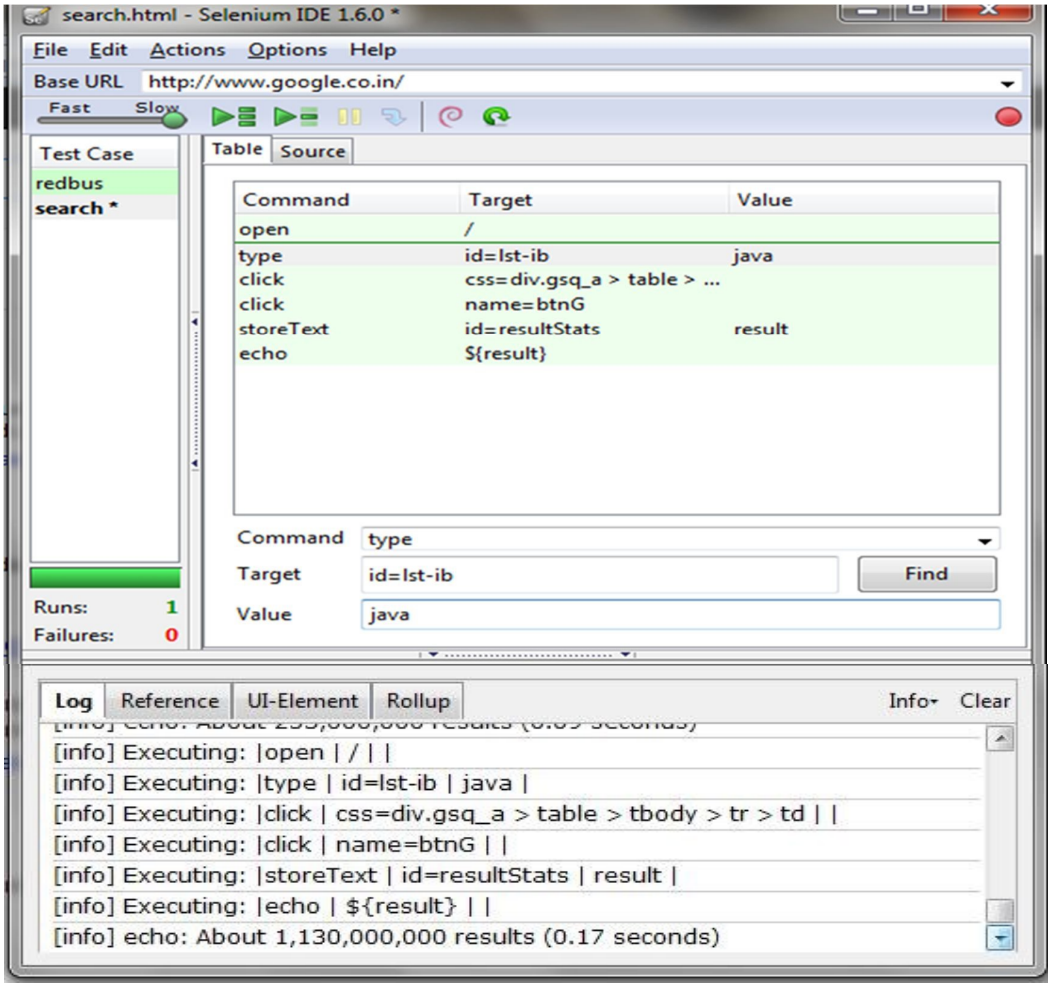
search		
open	/	
type	id=lst-ib	java
click	css=div.gsq_a > table > tbody > tr > td	
click	name=btnG	
storeText	id=resultStats	result
echo	${result}	

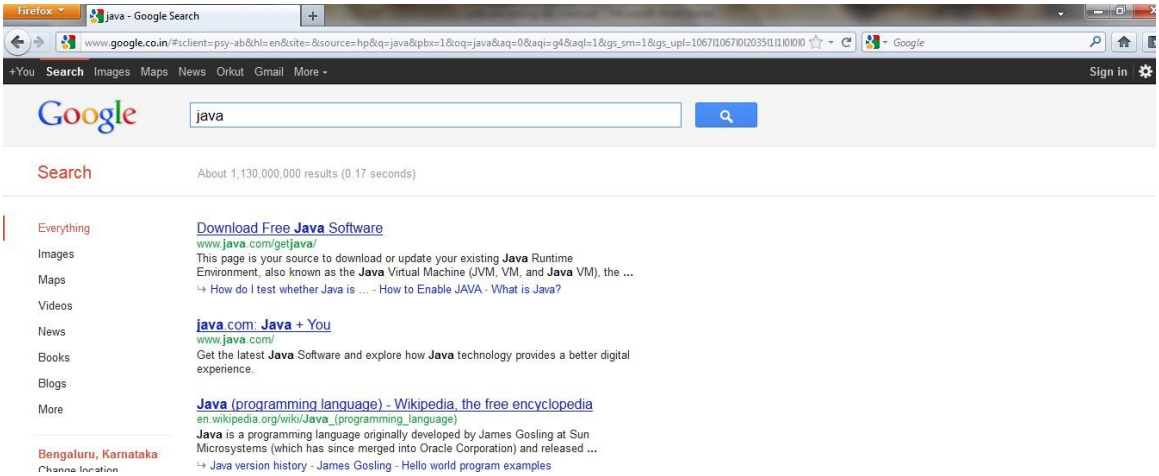
OUTPUT:


redbus.html - Selenium IDE 1.6.0
File Edit Actions Options Help
Base URL file:///C:/Users/Savitha/Desktop/java%20script/gcd.html
Fast Slow
Test Case
redbus
search
Table Source
Command Target Value
select id=DDLSource label=Chennai
select id=DDLDestination label=Bangalore
click css=#tDestinations > op...
click css=img.ui-datepicker-t...
click link=19
click css=img.ui-datepicker-t...
clickAndWait id=searchBtn
assertTitle Book Ticket - Search Bus...
assertTitle Book Ticket - Search Bus...
storeTable id=list5.0.6 a
echo ${a}
Command
Target
Value
Find
Runs: 1
Failures: 0
Log Reference UI-Element Rollup
Info Clear
[info] Executing: |select | id=DDLDestination | label=Bangalore |
[info] Executing: |click | css=#tDestinations > option[value="210"] | |
[info] Executing: |click | css=img.ui-datepicker-trigger | |
[info] Executing: |click | link=19 | |
[info] Executing: |click | css=img.ui-datepicker-trigger | |
[info] Executing: |clickAndWait | id=searchBtn | |
[info] Executing: |assertTitle | Book Ticket - Search Buses | |
[info] Executing: |assertTitle | Book Ticket - Search Buses | |
[info] Executing: |storeTable | id=list5.0.6 | a |
[info] Executing: |echo | ${a} | |
[info] echo: 555


ONLINE BUS TICKETS BOOKING SERVICE...
redBus.in
Online bus tickets booking | Bus hire | Airport buses (Delhi)
Agent registration
ZERO BOOKING FEES!
From Chennai
To Bangalore
Date of Journey 19-Feb-2012
Search buses
Can't find a route? Tell us.
No more ticket print - outs.
Use our mTicket instead.
Call for bus tickets (7:30 am to 11 pm)
(044) 394 12345
redBus Advantages
Cash on delivery service of bus tickets in major cities
Book online using credit, debit cards and net banking
Book bus tickets online or over IVR through our call centers


Book Ticket - Search Buses
redBus.in
Chennai-Bangalore | << Sun, Feb 19 >> modify
Select >> Pay
Travels Bus type Amenities Boarding points Dropping points Bus rating
Travels Bus type Amenities Dep. Arr. Hrs. Seats Ratings mTkt Fare
Shama sardar Travels
Volvo A/C Semi Sleeper (2+2)
06:45 AM
02:15 PM
7.30 hrs
12 seats
window : 6
22 ratings
₹ 555
canc. policy : address
photos : video
details
view seats


search.html - Selenium IDE 1.6.0 *
File Edit Actions Options Help
Base URL http://www.google.co.in/
Fast Slow
Test Case
redbus
search *
Table Source
Command Target Value
open /
type id=lst-ib java
click css=div.gsq_a > table > ...
click name=btnG
storeText id=resultStats result
echo ${result}
Command type
Target id=lst-ib
Find
Value java
Runs: 1
Failures: 0
Log Reference UI-Element Rollup
Info Clear
[info] Executing: |open | / | |
[info] Executing: |type | id=lst-ib | java |
[info] Executing: |click | css=div.gsq_a > table > tbody > tr > td | |
[info] Executing: |click | name=btnG | |
[info] Executing: |storeText | id=resultStats | result |
[info] Executing: |echo | ${result} | |
[info] echo: About 1,130,000,000 results (0.17 seconds)


java - Google Search
+You Search Images Maps News Orkut Gmail More
Sign in
Google
java
Search
About 1,130,000,000 results (0.17 seconds)
Everything
Images
Maps
Videos
News
Books
Blogs
More
Bengaluru, Karnataka
Download Free Java Software
www.java.com/getjava/
This page is your source to download or update your existing Java Runtime Environment, also known as the Java Virtual Machine (JVM, VM, and Java VM), the ...
How do I test whether Java is ... - How to Enable JAVA - What is Java?
java.com: Java + You
www.java.com/
Get the latest Java Software and explore how Java technology provides a better digital experience.
Java (programming language) - Wikipedia, the free encyclopedia
en.wikipedia.org/wiki/Java_(programming_language)
Java is a programming language originally developed by James Gosling at Sun Microsystems (which has since merged into Oracle Corporation) and released ...
Java version history - James Gosling - Hello world program examples

4. Install Selenium server and demonstrate it using a script in Java/PHP

- Download the following :
  selenium-server-standalone-2.15.0
  selenium-java-client-driver
  from http://seleniumhq.org/download/
  save these two jar files under jdk1.6.0\bin (You can use jdk6 and above versions of java
- Download 'Eclipse IDE for java developers'
  from http://www.eclipse.org/downloads/. This is not an installable file. so just copy the file under C: drive. whenever you need to write test code in eclipse just double click on the eclipse application inside the eclipse folder

Java script to develop a web page which calculates the GCD of 2 numbers. Save this file on desktop and save as GCD.html

```
<html>
<head>
<script type="text/javascript">
 function gcd()
  {
    var x,y;
    x=parseInt(document.myform.n1.value);
    y=parseInt(document.myform.n2.value);
    while(x!=y)
     {    if(x>y)
          x=x-y;
         else
          y=y-x;
     }
  document.myform.result.value=x;
  }
</script>
</head>
<body>
<h1 align="center"> Program to calculate gcd of two numbers </h1>
<hr color="red">
<center>
Enter two numbers :
<form name="myform">
Number 1 : <input type="text" name="n1" value=""> <br> <br>
Number 2 : <input type="text" name="n2" value=""> <br> <br>
<input type="button" value="Get GCD" onClick="gcd()"> <br> <br>
GCD is : <input type="text" name="result" value="">
</form>
</body>
</html>
```

java test script for testing the gcd webpage. (write this code in eclipse environment).

```
import com.thoughtworks.selenium.*;
import org.junit.After;
import org.junit.Before;
import org.junit.Test;
```

```
@SuppressWarnings("deprecation")
public class GcdTest extends SeleneseTestCase {
	@Before
	public void setUp() throws Exception {
		selenium = new DefaultSelenium("localhost", 4444, "*chrome",
"file:///C:/Users/Savitha/Desktop/GCD.html");
		selenium.start();
	}

	@Test
	public void testGcd() throws Exception {
		selenium.setSpeed("2000");
		selenium.open("file:///C:/Users/Savitha/Desktop/GCD.html");
		selenium.windowMaximize();
		selenium.type("name=n1", "5");
		selenium.type("name=n2", "6");
		selenium.click("css=input[type=\"button\"]");
		String result = selenium.getValue("name=result");
		System.out.println("the gcd is : " +result);
	}

	@After
	public void tearDown() throws Exception {
		selenium.stop();
	}
}
```

Write the Above code in eclipse by following the below steps

- Open eclipse application-> give the folder name where you want to store your files. the default will be ' workspace '
- Then go to file→new→java project.
- You will get **Create java project** window , Name the project to **st** → click **finish**.
  Double click on the new project **st** on the package explorer → you will get **src** folder and JRE System Library
- right click on the **src** folder→go to new→click on the **class** → you will get **new java class** window →name the class as **GcdTest** → click finish.

Note: Make sure that the path of your GCD.html file must be correct , in this example it is
file:///C:/Users/Savitha/Desktop/GCD.html

After writing this code if u get red lines under the selenium then include the selenium server and selenium java driver jar file. the steps are

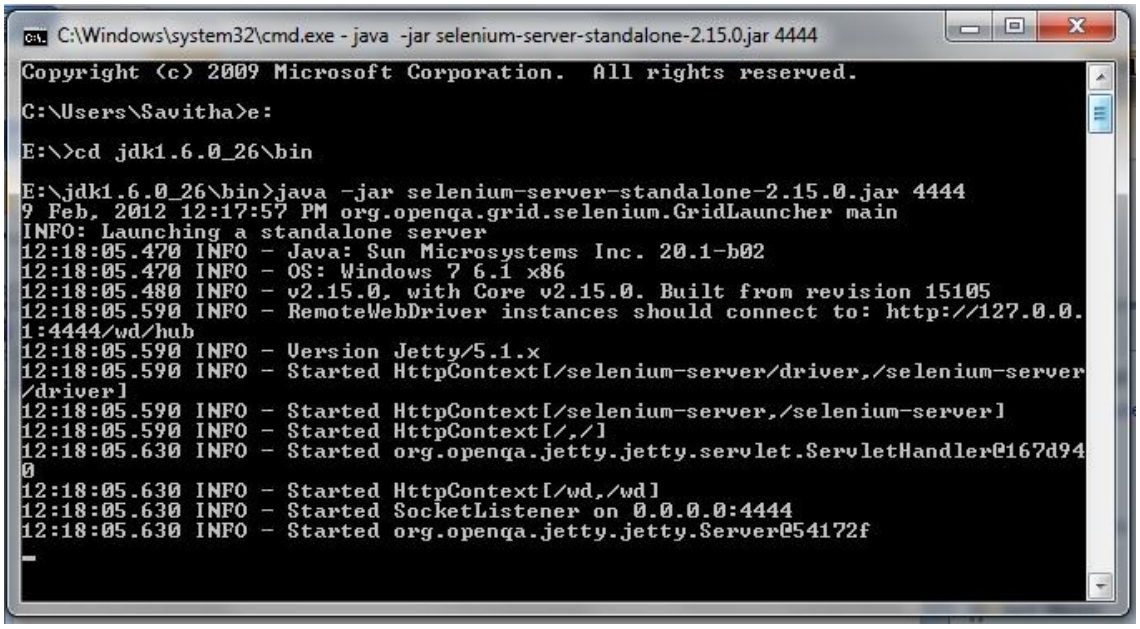
- Right click on the **st** folder→ click on **properties**→ click on **Java Build path**→ then select the tab **libraries**→ click on **Add External JARs**→ browse for **selenium-server-standalone-2.15.0**→ click **open**→ again click on **Add External JARs** → browse for **selenium-java-client-driver**→click **open**-→ click **ok**.

To run the above program

- First open the command prompt→ go to the jdk1.6.0_26\bin folder → run/write the command

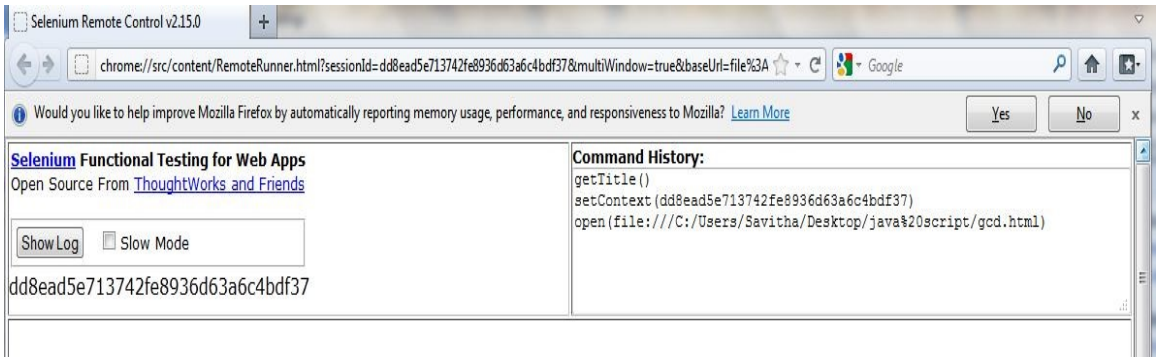
Java –jar selenium-server-standalone-2.15.0.jar 4444

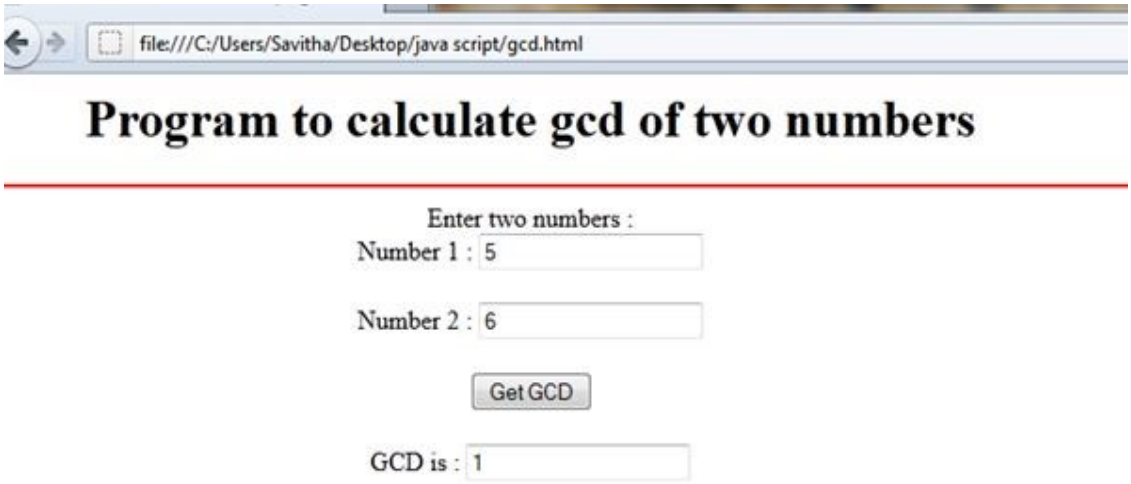
(In the above command 4444 is the local port number)



Now your Selenium RC Server has started to run.

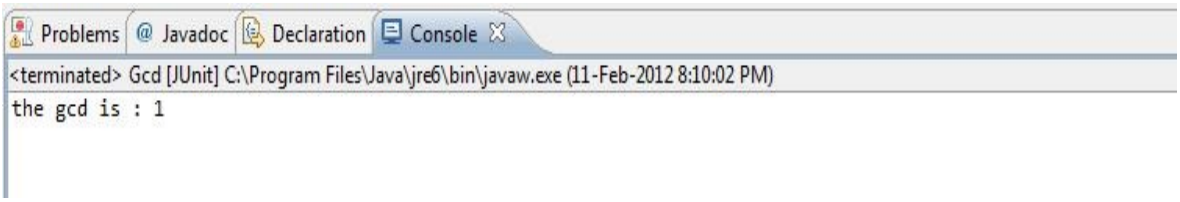
Next step is to run your testing program in eclipse. For that click on the green run button in eclipse.





OUTPUT:

You can see the output in the eclipse console as follows

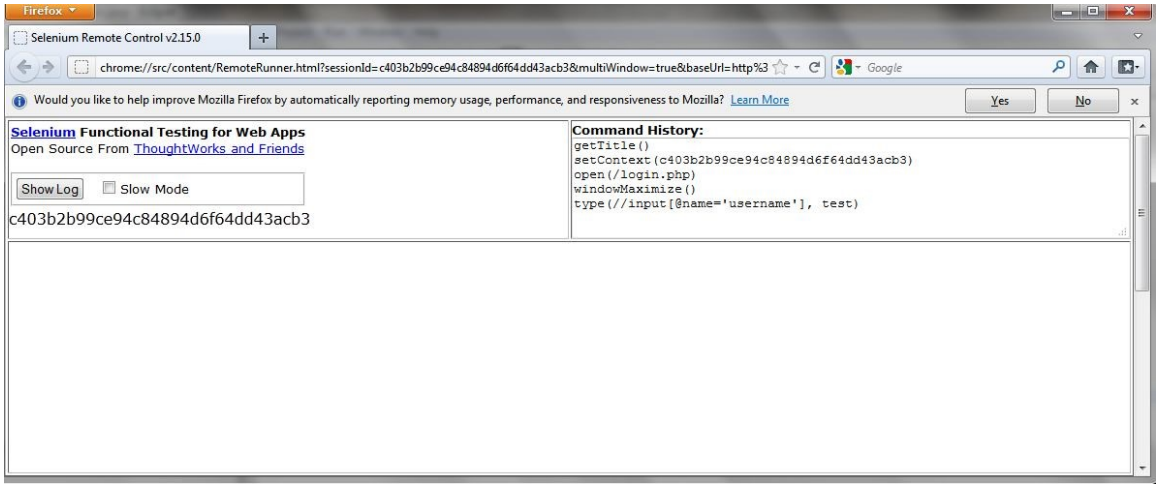


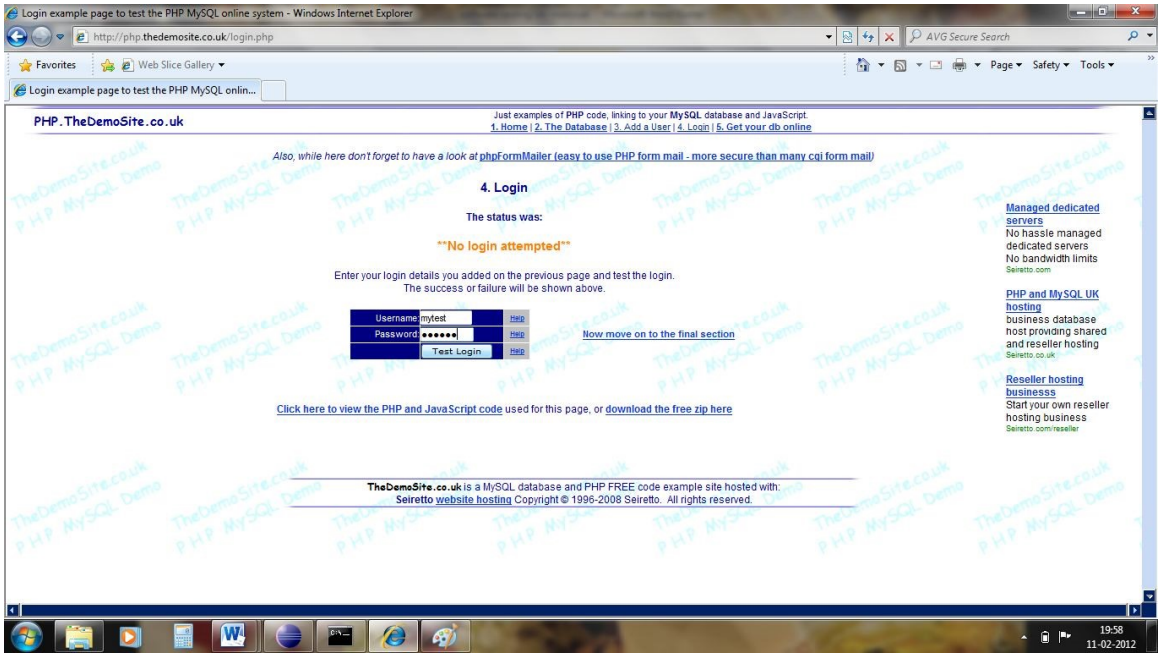
5. Write and test a program to login a specific web page

(Write this java test code in eclipse. before running this code makes sure your selenium RC server is running)

```
import com.thoughtworks.selenium.*;
@SuppressWarnings("deprecation")
public class login extends SeleneseTestCase {
	public void setUp() throws Exception {
		setUp("http://php.thedemosite.co.uk/","*firefox");
	}

	public void testloginlogout(){

		selenium.setSpeed("2000");
		selenium.open("/login.php");
		selenium.windowMaximize();
		selenium.type("//input[@name='username']", "mytest");
		selenium.type("//input[@name='password']", "mytest");
		selenium.click("//input[@type='button']");
		selenium.waitForPageToLoad("50000");

	}
}
```

OUTPUT:




Login example page to test the PHP MySQL online system - Windows Internet Explorer
http://php.thedemosite.co.uk/login.php
PHP.TheDemoSite.co.uk
Just examples of PHP code, linking to your MySQL database and JavaScript.
1. Home | 2. The Database | 3. Add a User | 4. Login | 5. Get your db online
Also, while here don't forget to have a look at phpFormMailer (easy to use PHP form mail - more secure than many cgi form mail)
4. Login
The status was:
No login attempted
Enter your login details you added on the previous page and test the login.
The success or failure will be shown above.
Username: mytest
Password: ••••••
Test Login
Help
Now move on to the final section
Click here to view the PHP and JavaScript code used for this page, or download the free zip here
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TheDemoSite.co.uk is a MySQL database and PHP FREE code example site hosted with:
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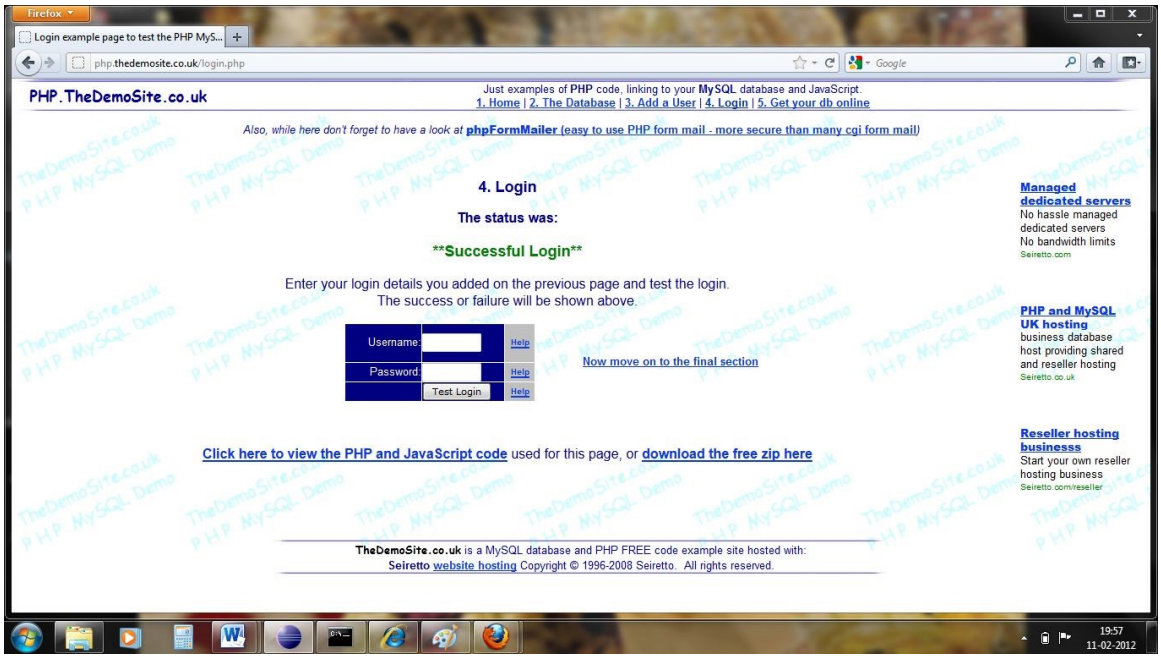
19:58
11-02-2012


Firefox
Login example page to test the PHP MyS...
php.thedemosite.co.uk/login.php
PHP.TheDemoSite.co.uk
Just examples of PHP code, linking to your MySQL database and JavaScript.
1. Home | 2. The Database | 3. Add a User | 4. Login | 5. Get your db online
Also, while here don't forget to have a look at phpFormMailer (easy to use PHP form mail - more secure than many cgi form mail)
4. Login
The status was:
Successful Login
Enter your login details you added on the previous page and test the login.
The success or failure will be shown above.
Username:
Password:
Test Login
Help
Now move on to the final section
Click here to view the PHP and JavaScript code used for this page, or download the free zip here
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19:57
11-02-2012

6. Write and test a program to update 10 student records into table into Excel file

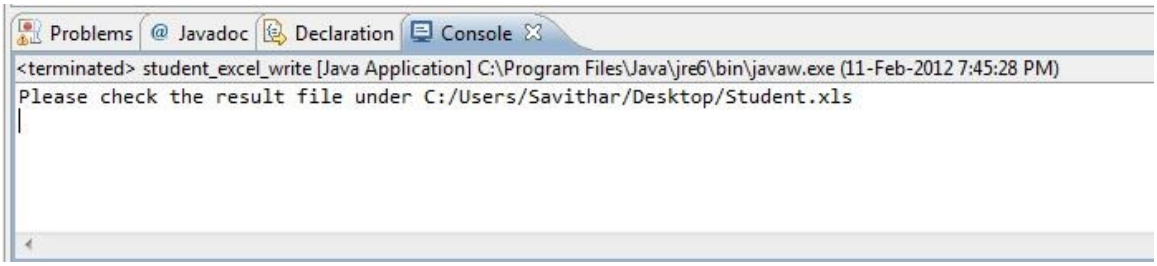
- Write this java test code in eclipse. Since we are not using any Selenium object here no need of selenium RC Server to run at the command prompt for this program.
- This program will create an Excel file Student.xls under the desktop.
- Since we are dealing with the excel, we need to add the external jar file jxl-2.6 in to the java project.(download jxl-2.6 and Follow the same steps as we used to add selenium server and selenium java driver to our java project refer page no 10 of this manual.)

```
import java.io.File;
import java.io.IOException;
import java.util.Locale;

import jxl.CellView;
import jxl.Workbook;
import jxl.WorkbookSettings;
import jxl.format.UnderlineStyle;
import jxl.write.Formula;
import jxl.write.Label;
import jxl.write.Number;
import jxl.write.WritableCellFormat;
import jxl.write.WritableFont;
import jxl.write.WritableSheet;
import jxl.write.WritableWorkbook;
import jxl.write.WriteException;
import jxl.write.biff.RowsExceededException;


public class student_excel_write {

        private WritableCellFormat timesBoldUnderline;
        private WritableCellFormat times;
        private String inputFile;

public void setOutputFile(String inputFile) {
        this.inputFile = inputFile;
        }

        public void write() throws IOException, WriteException {
                File file = new File(inputFile);
                WorkbookSettings wbSettings = new WorkbookSettings();

                wbSettings.setLocale(new Locale("en", "EN"));

                WritableWorkbook workbook = Workbook.createWorkbook(file, wbSettings);
                workbook.createSheet("Report", 0);
                WritableSheet excelSheet = workbook.getSheet(0);
                createLabel(excelSheet);
                createContent(excelSheet);

                workbook.write();
                workbook.close();
        }
```

```
private void createLabel(WritableSheet sheet)
                throws WriteException {
        // Lets create a times font
        WritableFont times10pt = new WritableFont(WritableFont.TIMES, 10);
        // Define the cell format
        times = new WritableCellFormat(times10pt);
        // Lets automatically wrap the cells
        times.setWrap(true);

        // Create  a bold font with underlines


        WritableFont times10ptBoldUnderline = new WritableFont(
                        WritableFont.TIMES, 10, WritableFont.BOLD, false,
                        UnderlineStyle.SINGLE);
        timesBoldUnderline = new WritableCellFormat(times10ptBoldUnderline);
        // Lets automatically wrap the cells
        timesBoldUnderline.setWrap(true);

        CellView cv = new CellView();
        cv.setFormat(times);
        cv.setFormat(timesBoldUnderline);
        cv.setAutosize(true);

        // Write a few headers
        addCaption(sheet, 0, 0, "Student Name");
        addCaption(sheet, 1, 0, "Subject 1");
        addCaption(sheet, 2, 0, "subject 2");
        addCaption(sheet, 3, 0, "subject 3");

}

private void createContent(WritableSheet sheet) throws WriteException,
                RowsExceededException {
        // Write a few number
        for (int i = 1; i < 10; i++) {
                // First column
                addLabel(sheet, 0, i, "Student " + i);
                // Second column
                addNumber(sheet, 1, i, ((i*i)+10));
                addNumber(sheet, 2, i, ((i*i)+4));
                addNumber(sheet, 3, i, ((i*i)+3));
        }
}

private void addCaption(WritableSheet sheet, int column, int row, String s)
                throws RowsExceededException, WriteException {
        Label label;
        label = new Label(column, row, s, timesBoldUnderline);
        sheet.addCell(label);
}

private void addNumber(WritableSheet sheet, int column, int row,
                Integer integer) throws WriteException, RowsExceededException {
        Number number;
```

```
                number = new Number(column, row, integer, times);
                sheet.addCell(number);
        }

        private void addLabel(WritableSheet sheet, int column, int row, String s)
                        throws WriteException, RowsExceededException {
                Label label;
                label = new Label(column, row, s, times);
                sheet.addCell(label);
        }

        public static void main(String[] args) throws WriteException, IOException {
                student_excel_write test = new student_excel_write();
                test.setOutputFile("C:/Users/Savitha/Desktop/Student.xls");
                test.write();
                System.out.println("Please check the result file under
C:/Users/Savithar/Desktop/Student.xls ");
        }
}
```

OUTPUT:



	A	B	C	D
1	**Student Name**	**Subject 1**	**subject 2**	**subject 3**
2	Student 1	11	5	4
3	Student 2	14	8	7
4	Student 3	19	13	12
5	Student 4	26	20	19
6	Student 5	35	29	28
7	Student 6	46	40	39
8	Student 7	59	53	52
9	Student 8	74	68	67
10	Student 9	91	85	84
11				

7. Write and test a program to select the number of students who have scored more than 60 in any one subject (or all subjects)

- Write this java test code in eclipse. Since we are not using any Selenium object here no need of selenium RC Server to run at the command prompt for this program.
- This program reads an excel file so Create an Excel file Student.xls under the desktop as follows.

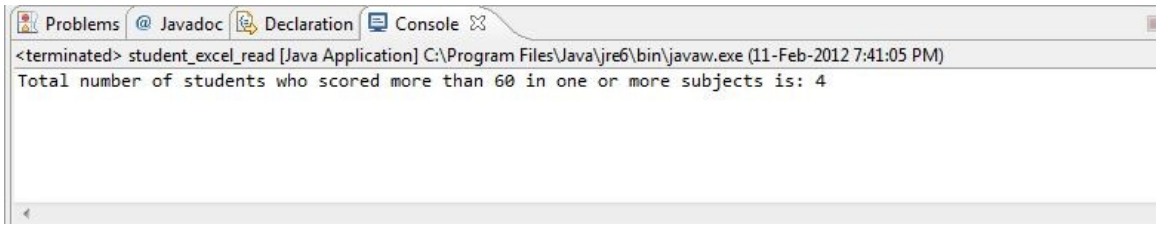
- Since we are dealing with the excel, we need to add the external jar file jxl-2.6 in to the java project.(download jxl-2.6 and Follow the same steps as we used to add selenium server and selenium java driver to our java project refer page no 10 of this manual.)

	A	B	C	D	E
1	**Student Name**	**Subject 1**	**subject 2**	**subject 3**	
2	Student 1	35	67	60	
3	Student 2	36	46	57	
4	Student 3	59	48	58	
5	Student 4	80	80	60	
6	Student 5	35	29	28	
7	Student 6	46	40	39	
8	Student 7	59	53	52	
9	Student 8	74	68	67	
10	Student 9	91	85	84	
11					
12					
13					

```
import java.io.File;
import java.io.IOException;

import jxl.Cell;
import jxl.CellType;
import jxl.Sheet;
import jxl.Workbook;
import jxl.read.biff.BiffException;

public class student_excel_read {

        private String inputFile;

        public void setInputFile(String inputFile) {
                this.inputFile = inputFile;
        }

        public void read() throws IOException  {
                File inputWorkbook = new File(inputFile);
                Workbook w;
```

```
		boolean flag=false;
		int count=0;
		try {
			w = Workbook.getWorkbook(inputWorkbook);
			// Get the first sheet
			Sheet sheet = w.getSheet(0);
			// Loop over first 10 column and lines

			for (int j = 0; j < sheet.getRows(); j++) {
				for (int i = 0; i < sheet.getColumns(); i++) {
					Cell cell = sheet.getCell(i, j);


					if (cell.getType() == CellType.NUMBER) {
						if(Integer.parseInt(cell.getContents())>60){
						  flag = true;
						if(flag == true){
							count++;
							flag=false;
							}
						break;
						}

					}

				}
							}
			System.out.println("Total number of students who scored more than 60 in one
or more subjects is: " +count);
		} catch (BiffException e) {
			e.printStackTrace();
		}
	}

	public static void main(String[] args) throws IOException {
		student_excel_read test = new student_excel_read();
		test.setInputFile("C:/Users/Savitha/Desktop/Student.xls");
		test.read();
	}

}
```

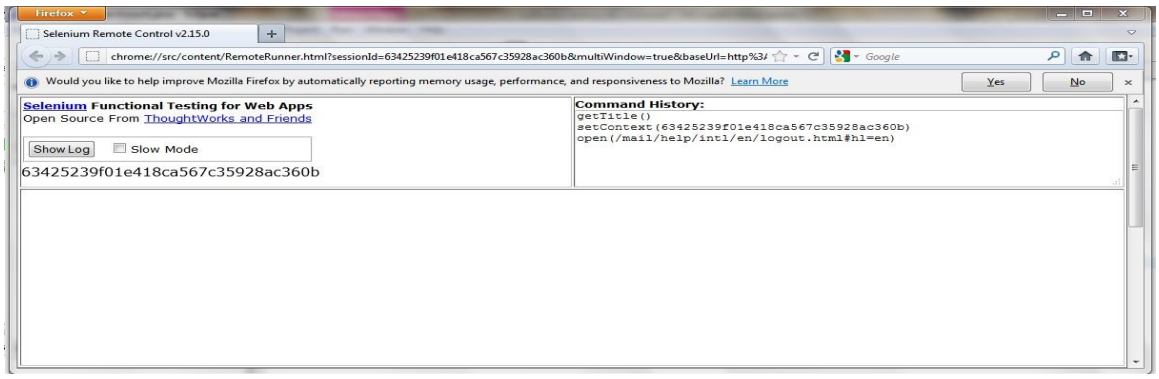
OUTPUT:



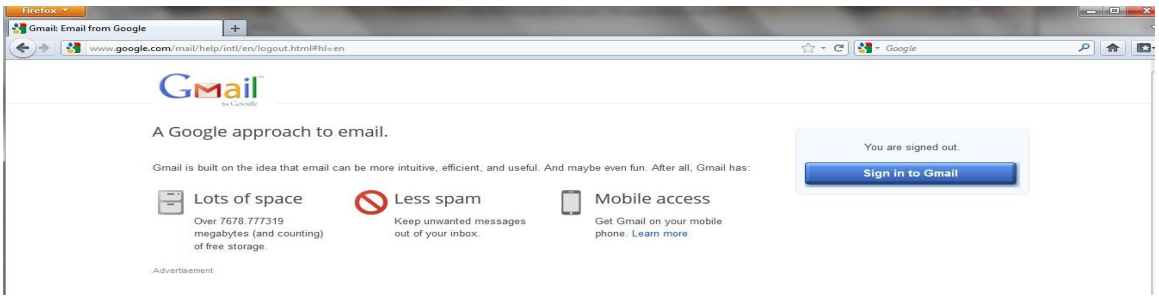
8. Write and test a program to provide total number of objects present / available on the page

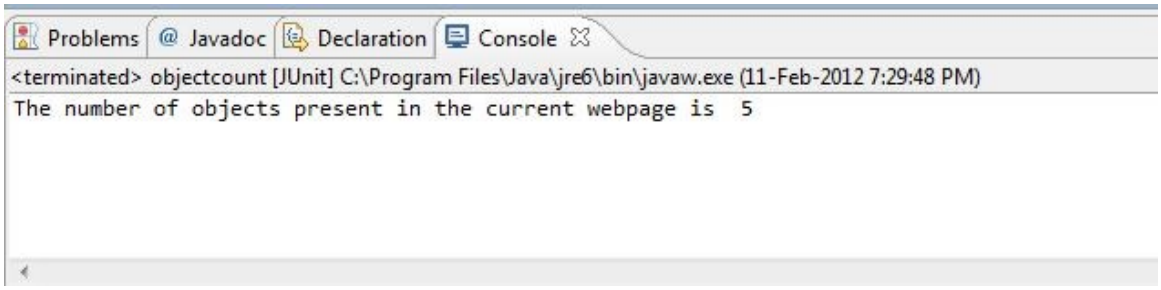
- Write this java test code in eclipse. before running this code makes sure your selenium RC server is running

```
import com.thoughtworks.selenium.*;
@SuppressWarnings("deprecation")
public class objectcount extends SeleneseTestCase {
        public void setUp() throws Exception {
                setUp("http://www.google.com/","*firefox");
        }

                public void testloginlogout(){

                selenium.setSpeed("1000");

                selenium.open("/mail/help/intl/en/logout.html#hl=en");
                selenium.waitForPageToLoad("30000");
                selenium.windowMaximize();
                int num = selenium.getXpathCount("//p").intValue();
                System.out.println("The number of option elements present are " +num);
        }
}
```



OUTPUT:




Problems
Javadoc
Declaration
Console
<terminated> objectcount [JUnit] C:\Program Files\Java\jre6\bin\javaw.exe (11-Feb-2012 7:29:48 PM)
The number of objects present in the current webpage is 5

9. Write and test a program to get the number of list items in a list / combo box.

- Write this java test code in eclipse. before running this code makes sure your selenium RC server is running)

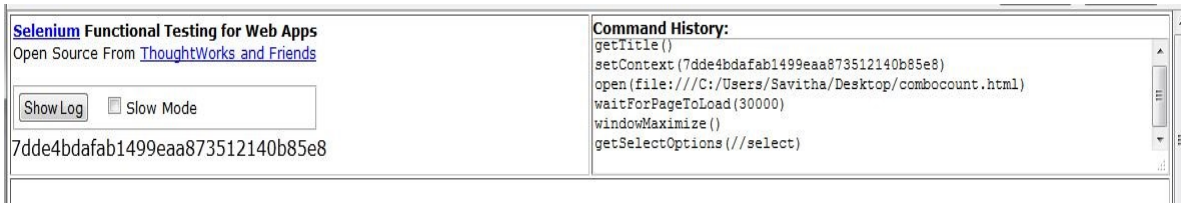
- Write Combocount.html as shown below and save under desktop

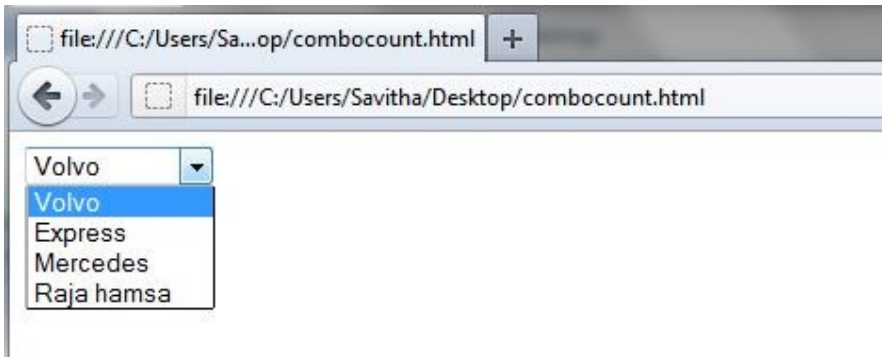
```
<html>
<body>
<select>
  <option>Volvo</option>
  <option>Express</option>
  <option>Mercedes</option>
<option>RajaHamsa</option>
</select>
 </body>
</html>
```

- Write the below code in eclipse
- Make sure that the path of your combocount.html file must be correct for your system , in this example it is

file:///C:/Users/Savitha/Desktop/combocount.html

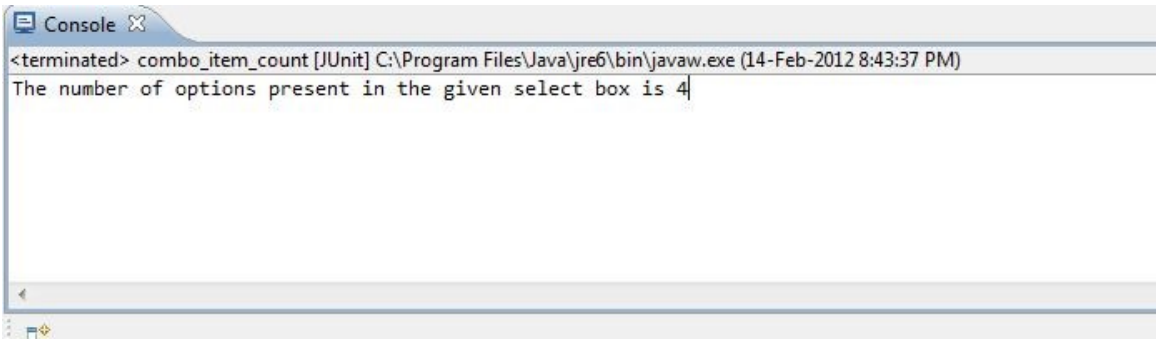
```
import com.thoughtworks.selenium.*;
public class Comboitemcount extends SeleneseTestCase {
        public void setUp() throws Exception {
                selenium = new DefaultSelenium("localhost", 4444, "*chrome",
"file:///C:/Users/Savitha/Desktop/combocount.html");
                selenium.start();}

        public void testloginlogout(){

                selenium.setSpeed("1000");

                selenium.open("file:///C:/Users/Savitha/Desktop/combocount.html");
                selenium.waitForPageToLoad("30000");
                selenium.windowMaximize();
                String[] selectelements = new String[1000];
                selectelements= selenium.getSelectOptions("//select");
                System.out.println("The number of options present in the given select box is "
+selectelements.length);

        }
}
```





OUTPUT:

You can see the output in the eclipse console as follows



10. Write and test a program to count number of items present on a desktop

- Write this java test code in eclipse. Since we are not using any Selenium object here no need of selenium RC Server to run at the command prompt for this program.
- Write a visual basic script with the following code and save as count.vbs under the desktop.

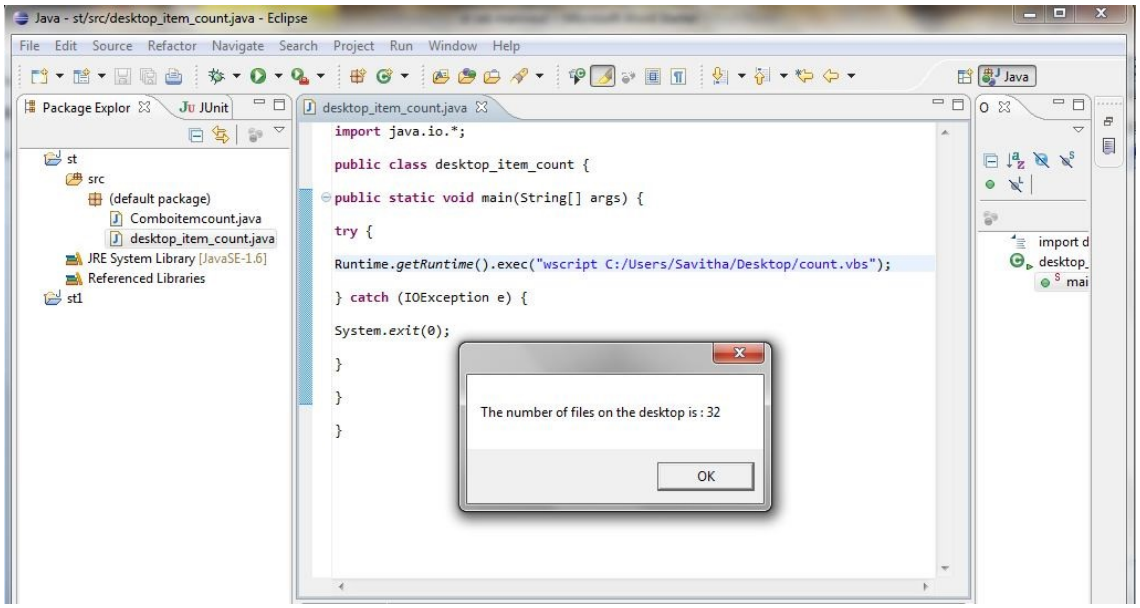
```
Set fso = createobject("Scripting.FileSystemObject")
DesktopPath = CreateObject("WScript.Shell").SpecialFolders("Desktop")
'Files count
msgbox "The number of files on the desktop is : " &fso.GetFolder(DesktopPath).Files.Count
'Folders count
msgbox "The number of folders on the desktop is : " &fso.GetFolder(DesktopPath).SubFolders.Count
```

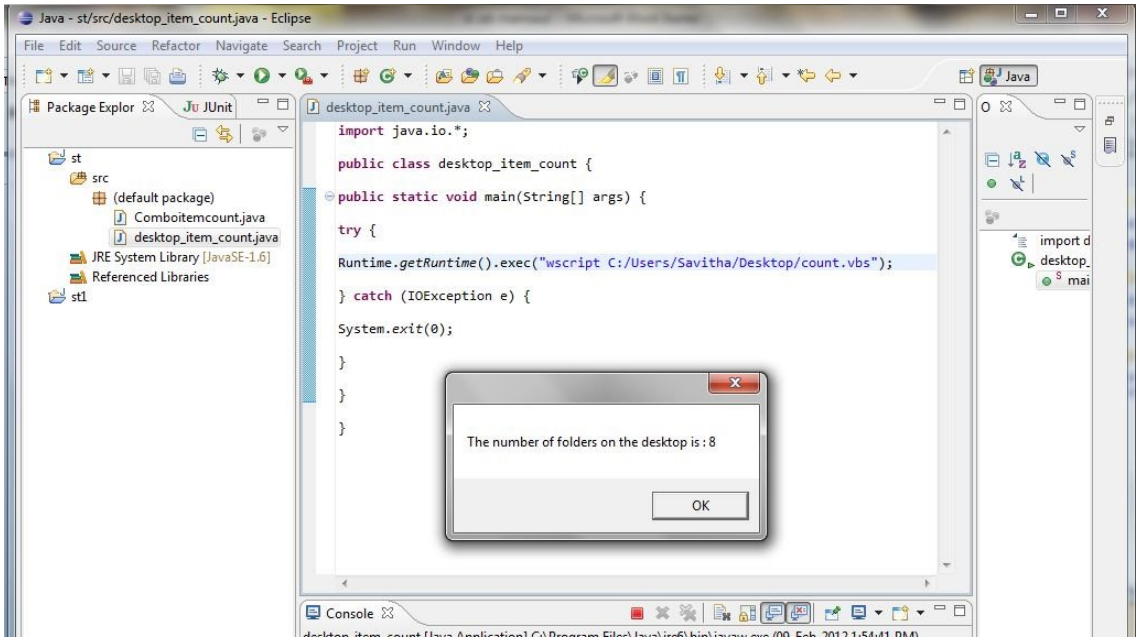
- In eclipse write the following code.

```
import java.io.*;

public class desktop_item_count {

public static void main(String[] args) {

try {

Runtime.getRuntime().exec("wscript C:/Users/Savitha/Desktop/count.vbs");

} catch (IOException e) {

System.exit(0);

}

}

}
```

Note: Don't forget to change the desktop file path for your system

OUTPUT


Java - st/src/desktop_item_count.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explor
JUnit
desktop_item_count.java
st
src
(default package)
Comboitemcount.java
desktop_item_count.java
JRE System Library [JavaSE-1.6]
Referenced Libraries
st1
import java.io.*;
public class desktop_item_count {
public static void main(String[] args) {
try {
Runtime.getRuntime().exec("wscript C:/Users/Savitha/Desktop/count.vbs");
} catch (IOException e) {
System.exit(0);
}
}
}
The number of files on the desktop is : 32
OK


Java - st/src/desktop_item_count.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explor
JUnit
desktop_item_count.java
st
src
(default package)
Comboitemcount.java
desktop_item_count.java
JRE System Library [JavaSE-1.6]
Referenced Libraries
st1
import java.io.*;
public class desktop_item_count {
public static void main(String[] args) {
try {
Runtime.getRuntime().exec("wscript C:/Users/Savitha/Desktop/count.vbs");
} catch (IOException e) {
System.exit(0);
}
}
}
The number of folders on the desktop is : 8
OK
Console