Software testing and quality assurance
Practical Journal

KAUSTUBH NARENDRA SONKUSARE
31011121079
Bsc.Computer Science (hons)
SEM V

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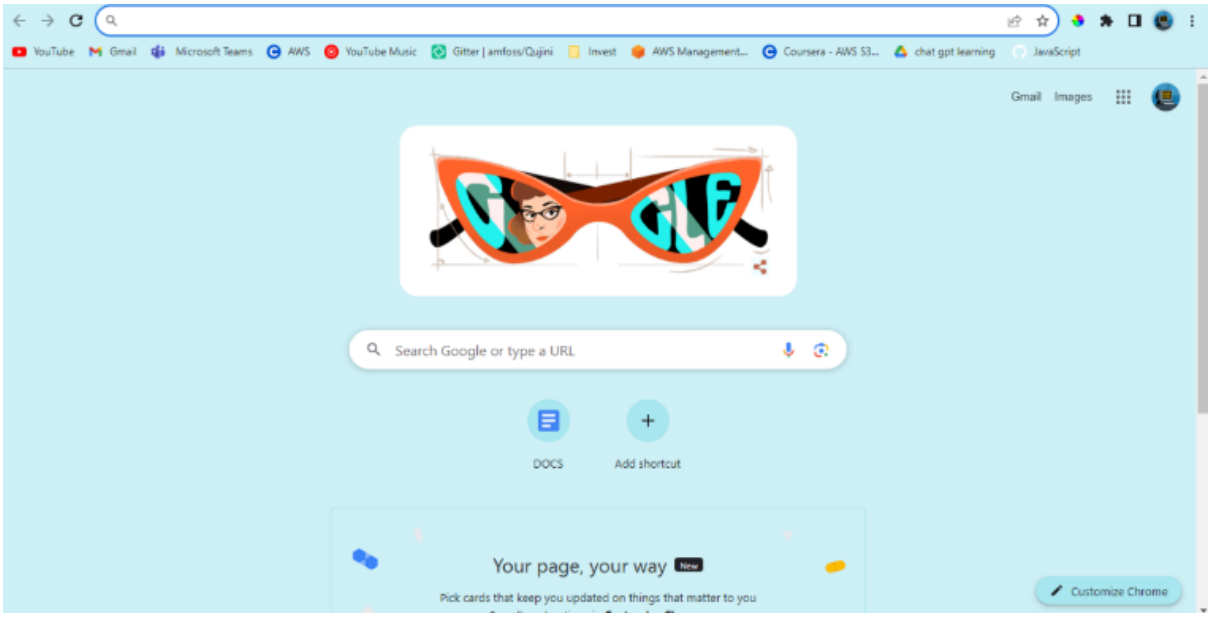
Practical 1:Manual Testing of Google Search Browser(google.com) for test cases

1.1 To check website loads properly
1.2 To check hyperlinks redirects on the given link
1.3 to check whether website detects the regional Language
1.4 Multiple languages offered at the home page
1.5 Authentication of Google Logo
1.6 To check whether website detects the theme
1.7 Response Time for each search
1.8 Autocomplete of search results
1.9 Correction of wrong spelling in search
1.10 Translation of Text

Case 1 - To check website loads properly
Expected output - loads properly with all embedded CSS
Actual output- loads properly
Remarks - Passed

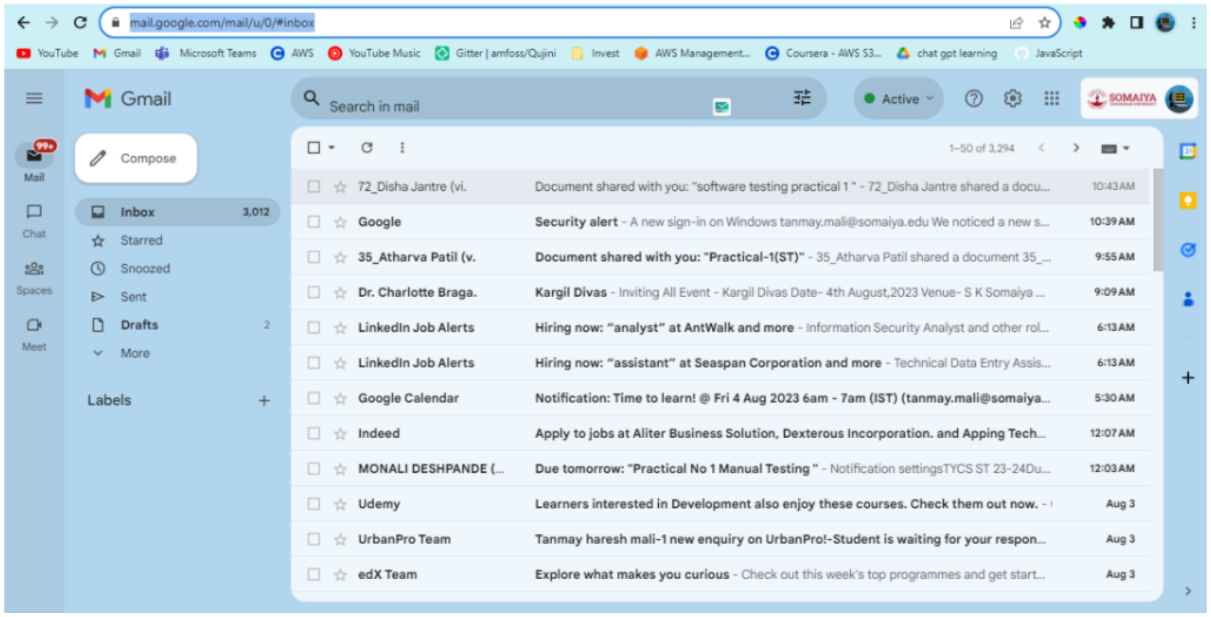


Case 2 -To check hyperlinks redirects on the given link

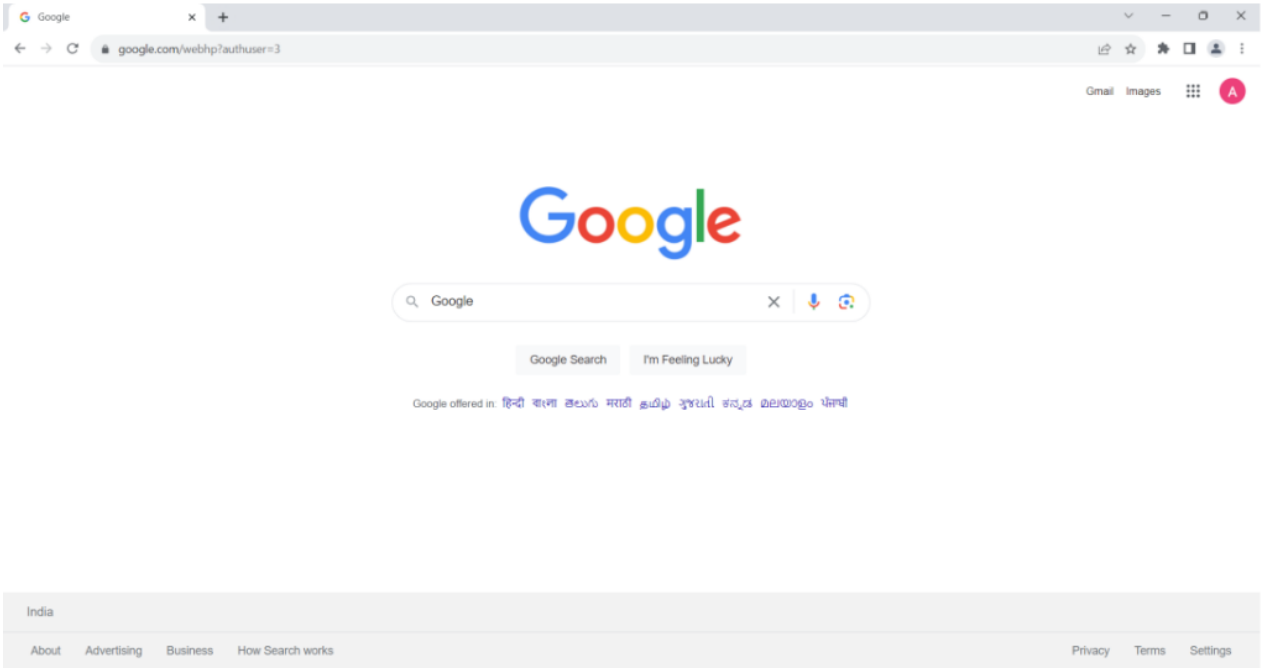
Expected - redirect to gmail on clicking Gmail

Actual Output - redirecting to https://mail.google.com/mail/u/0/#inbox

Remarks - Passed

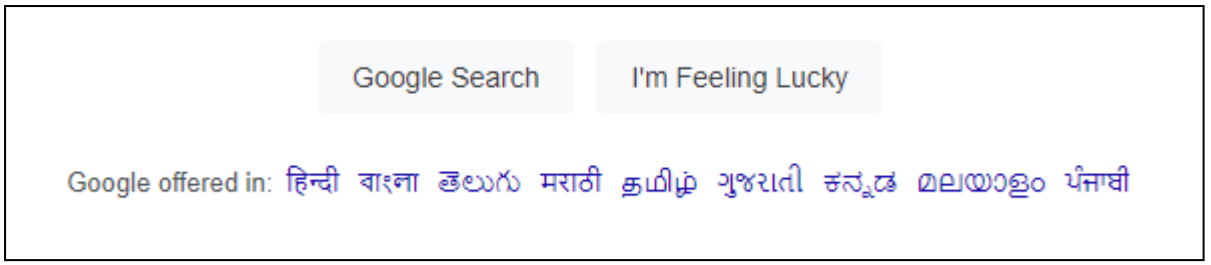


Case 3 - to check whether website detects the regional Language
Expected Output - Loads page on system selected language
Actual Output - loads in English US as the system language
Remarks - Passed



Case 4 - Multiple languages offered at the home page

Expected Output - Found below the search bar for the use
Actual Output - Found below the search bar for the use
Remarks - Passed

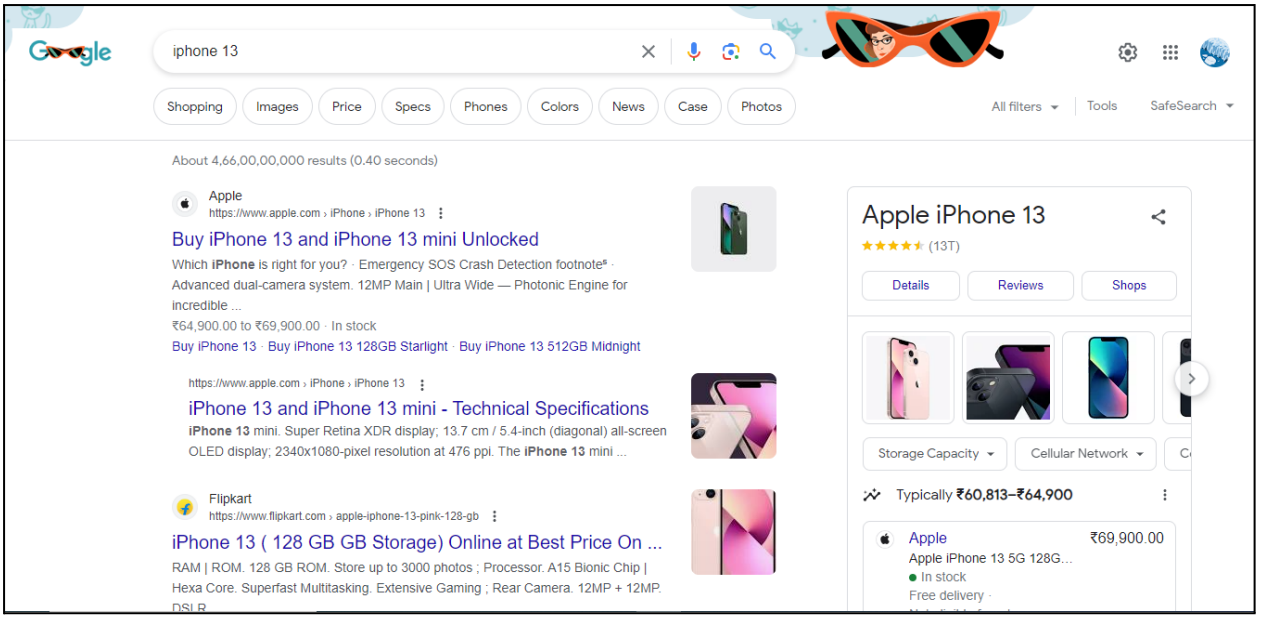


Case 5 - Authentication of Google Logo

Expected Output - Proper Colors and Font used for the logo
Actual Output - Standard logo with proper colors and fonts used
Remarks - Passed

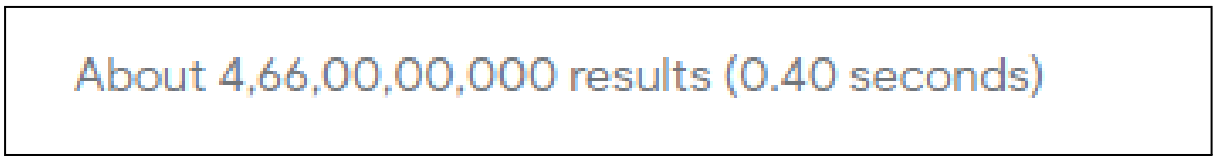
Case 6 - To check whether website detects the theme

Expected Output - when system on dark theme the site loads in dark mode
Actual Output - loads in dark mode
Remarks - Passed



Case 7 - Response Time for each search

Expected Output - Found below the search bar with time displayed in milliseconds
Actual Output - Found just below the ribbon below search bar
Remarks - Passed

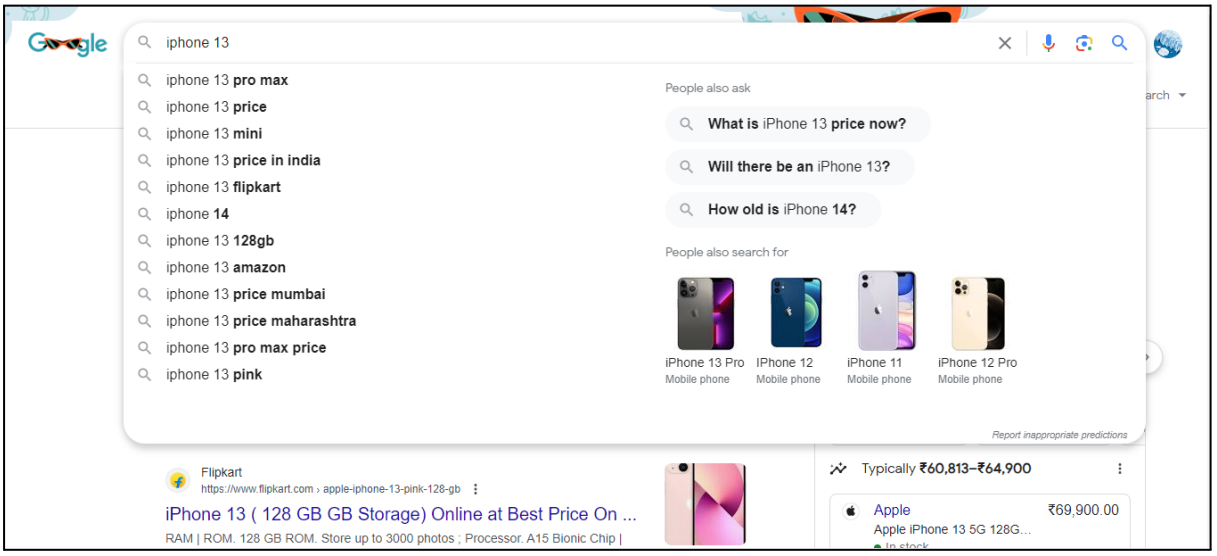


Case 8 - Autocomplete of search results

Expected Output - Suggestions made for the word typing

Actual Output - Completion of search while writing/searching

Remarks - Passed

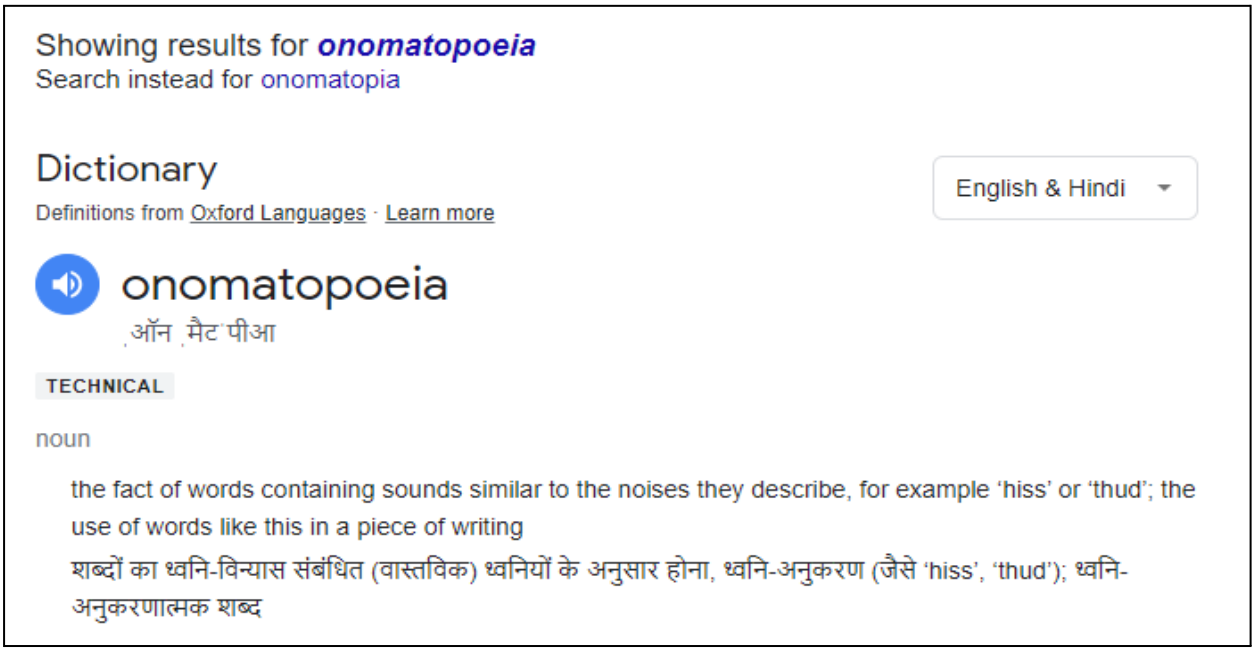


Case 9 - Correction of wrong spelling in search

Expected Output - Display of proper spelling of word

Actual Output - Proper spelling of the word along with result

Remarks - Passed



Case 10 - Translation of Text

Expected Output - Translation of various different languages into preferred language
Actual Output - Translation of spanish into english
Remarks - Passed

Test Case No.	Title	Input	Expected Output	Actual Output	Remarks
1	To check website loads properly	Google	loads properly with all embedded CSS	loads properly	Passed
2	To check hyperlinks redirects on the given link	Google	redirect to gmail on clicking Gmail	redirecting to https://mail.google.com/mail/u/0/#inbox	Passed
3	to check whether website detects the regional Language	Google	Loads page on system selected language	loads in English US as the system language	Passed
4	Multiple languages offered at the home page	Google	Found below the search bar for the use	Found below the search bar for the use	Passed
5	Authentication of Google Logo	Google	Standard logo with proper colors and fonts used	Proper Colors and Font used for the logo	Passed
6	To check whether website detects the theme	Google	when system on dark theme the site loads in dark mode	loads in dark mode	Passed
7	Response Time for each search	Google	Found below the search bar with time displayed in milliseconds	Found just below the ribbon below search bar	Passed
8	Autocomplete of search results	Google	Suggestions made for the word typing	Completion of search while writing/searching	Passed
9	Correction of wrong spelling in search	Google	Display of proper spelling of word	Proper spelling of the word along with result	Passed
10	Translation of Text	Google	Translation of various different languages into preferred language	Translation of spanish into english	Passed

Practical-2: Right and test a program to login a specific web page

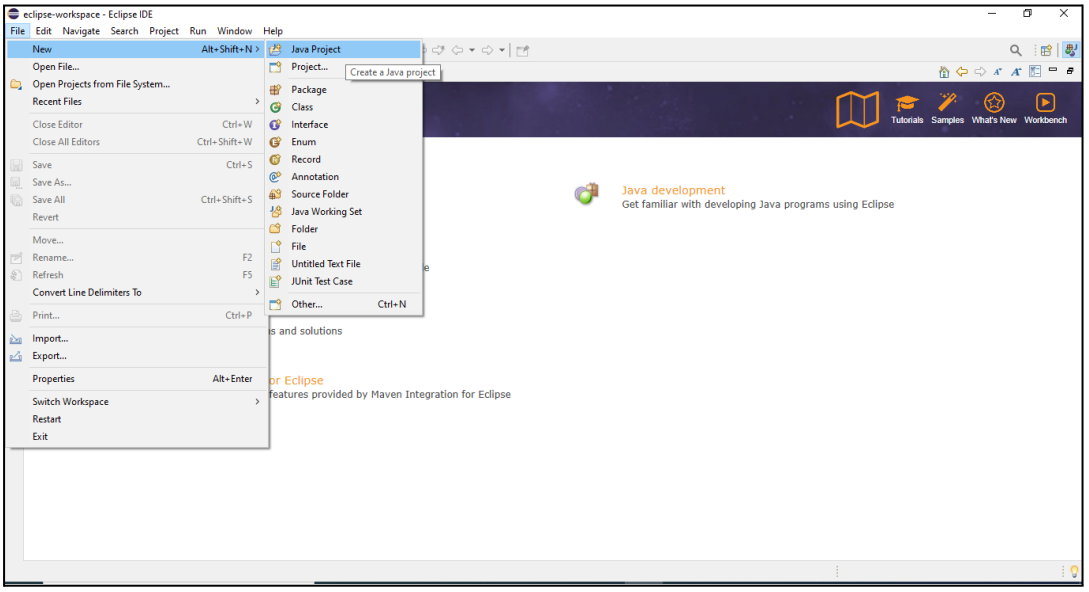
Aim: Program to login Google account

Procedure:

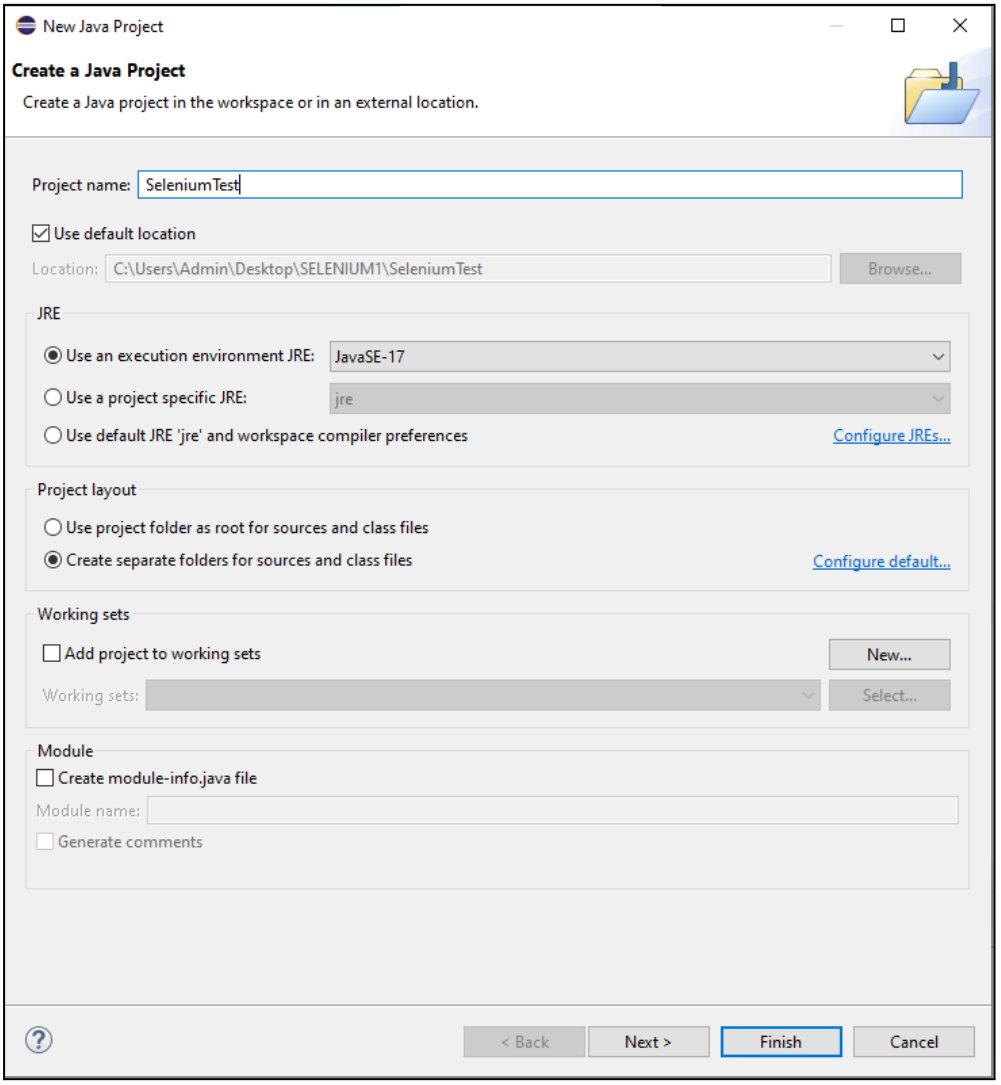
1) Download and setup Eclipse workspace
2) Create a new project

Steps:

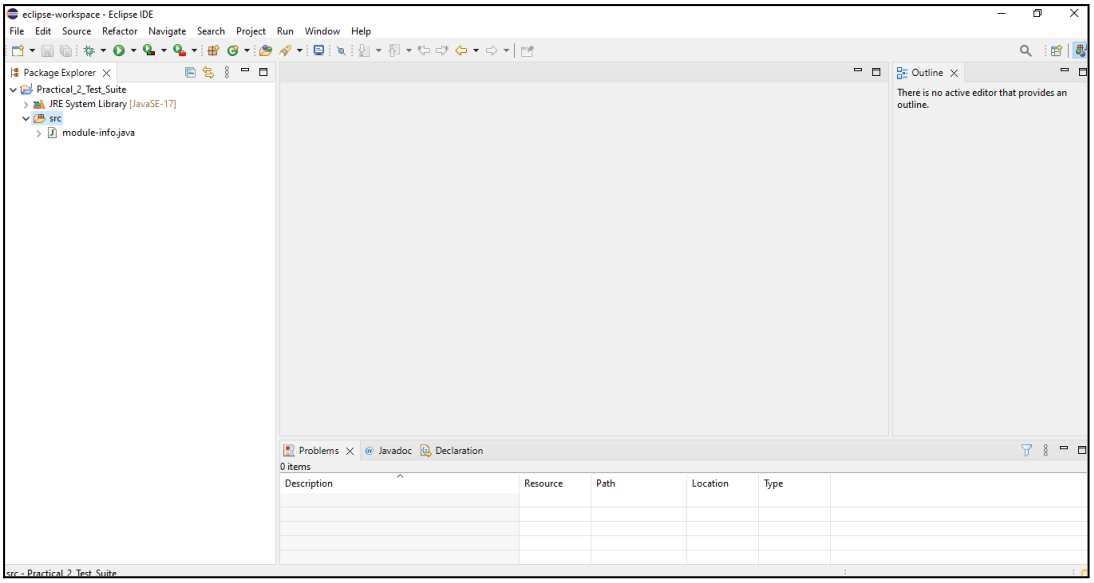
i) New → Java project



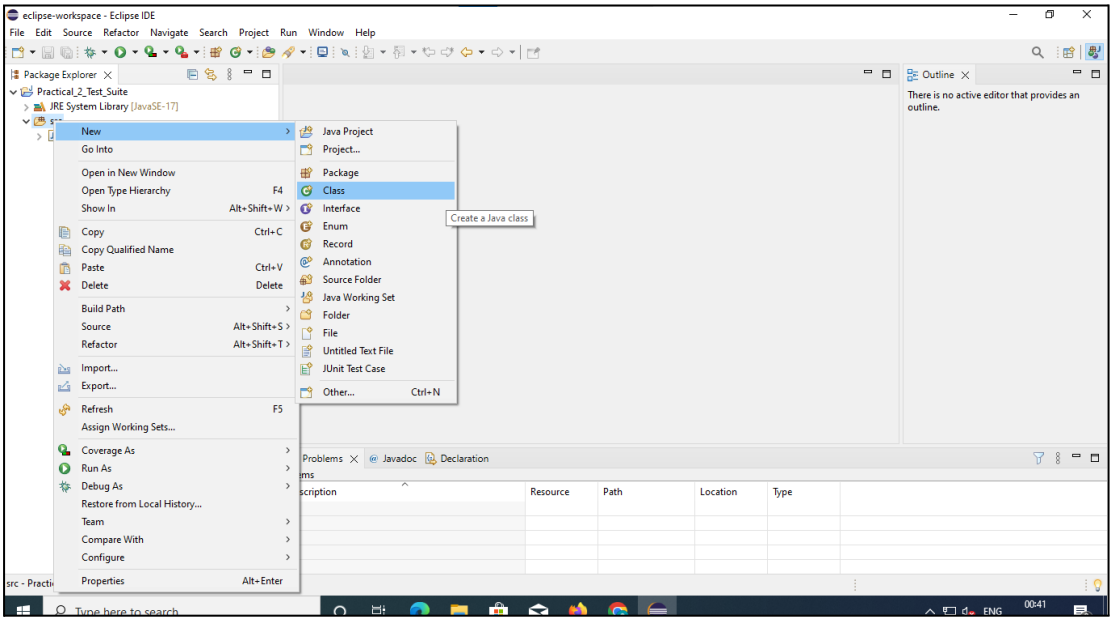
ii) Fill up project name, module name



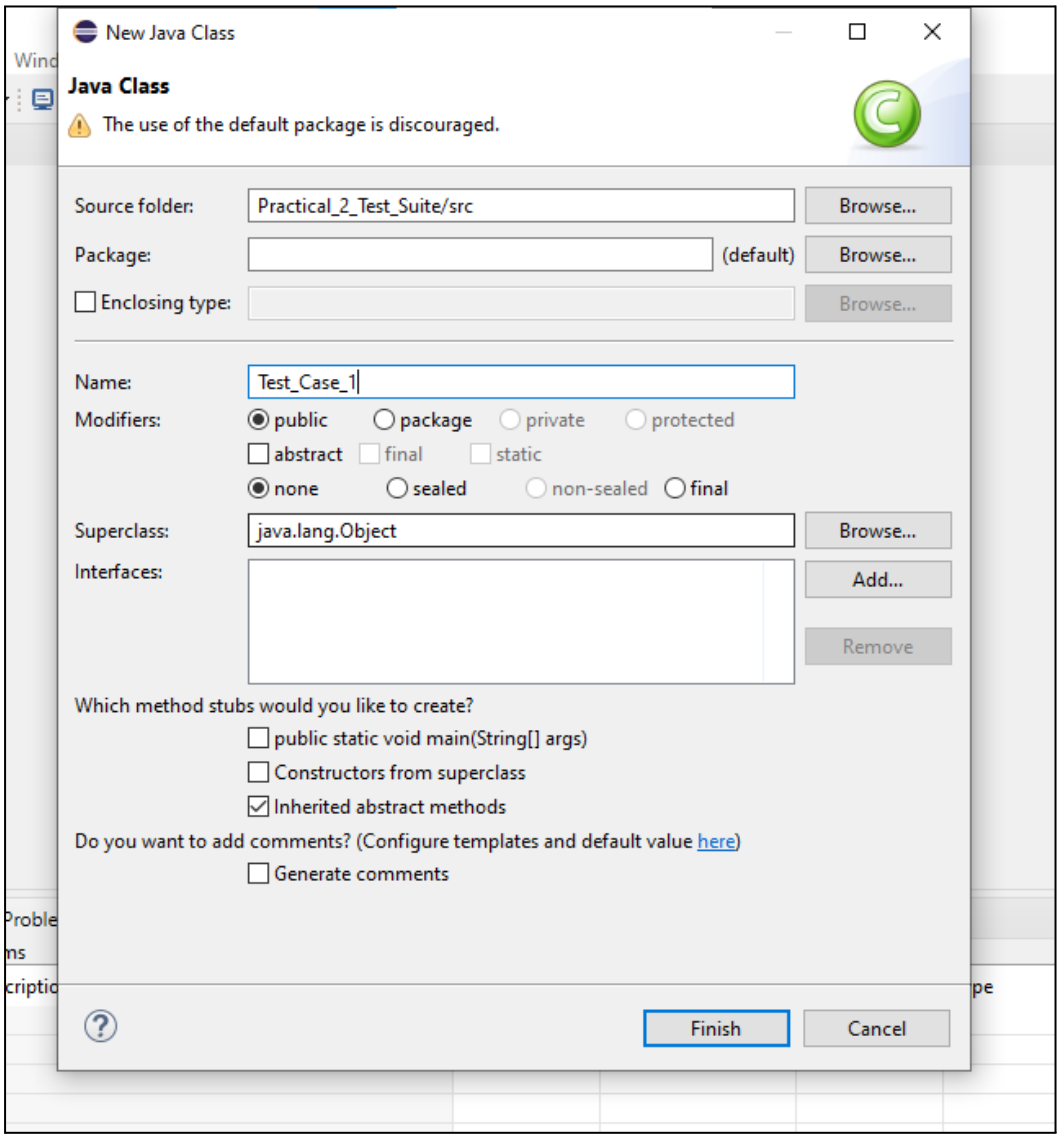
iii) Project created



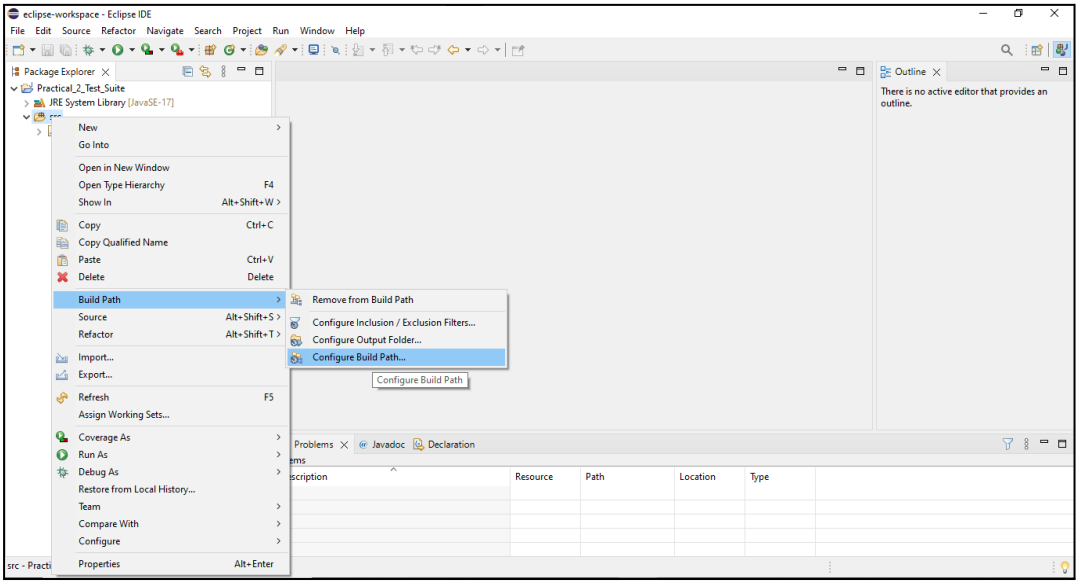
iv) create class



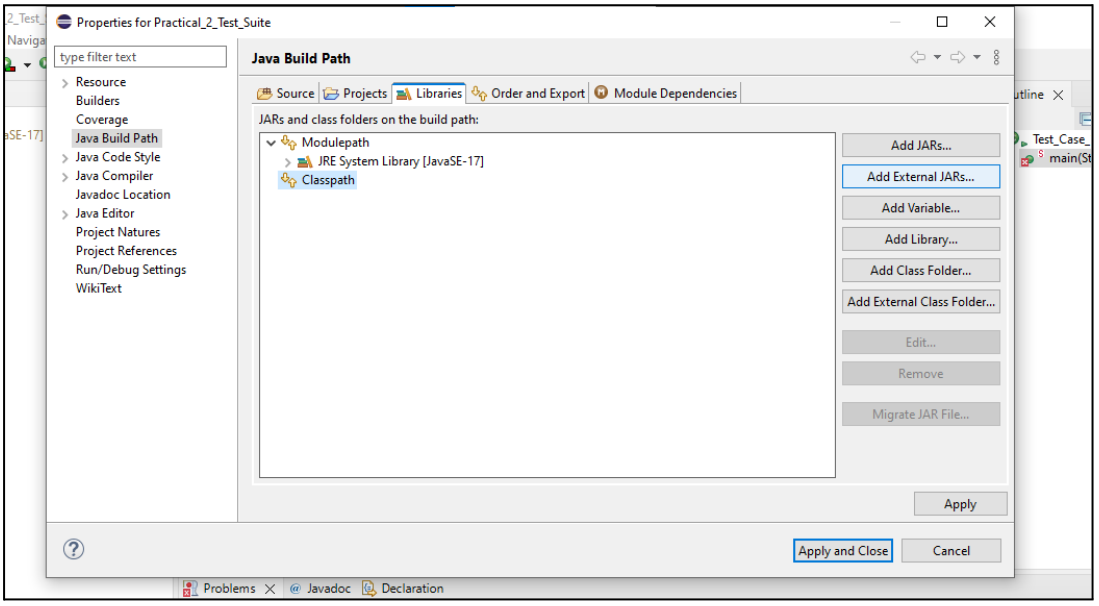
v) Add name for class



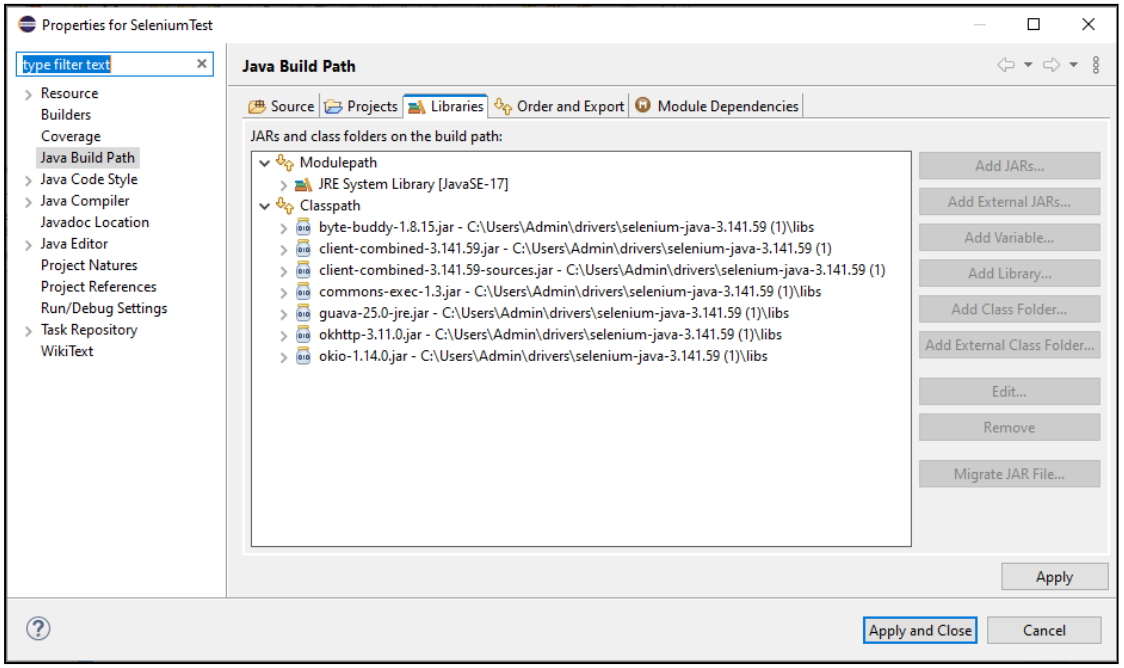
vi) Configure build path



vii) click Add external jar



viii) select selenium files

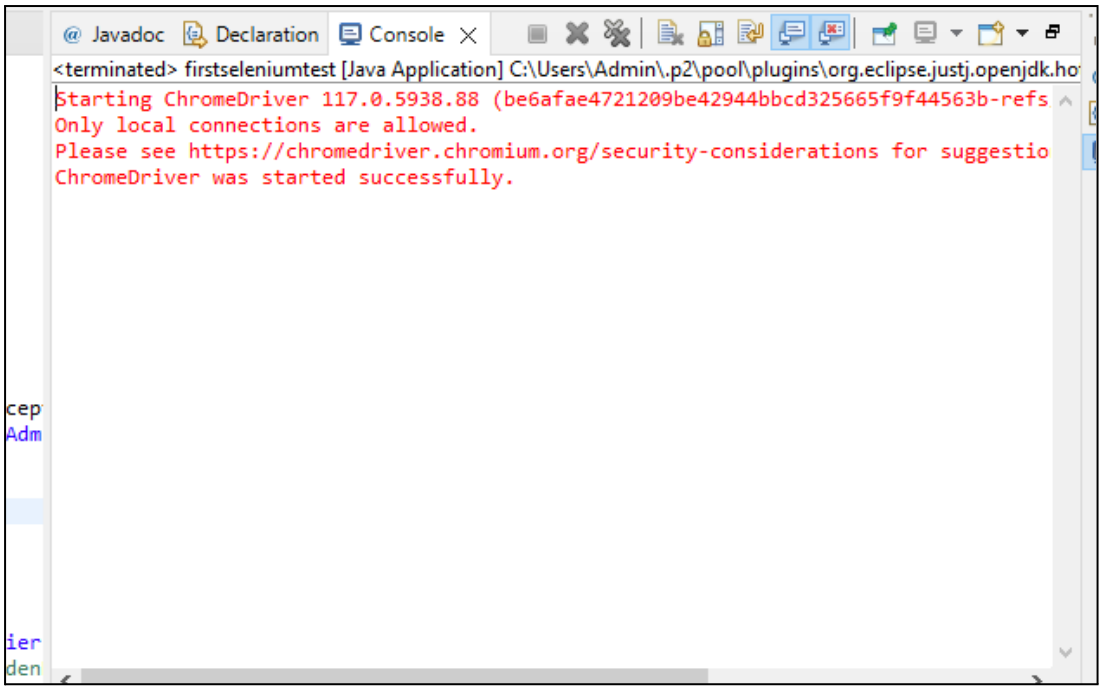


Java code:

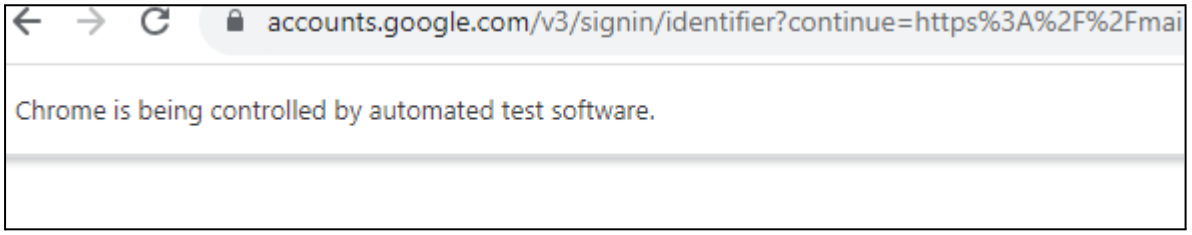
```
package com.Test_Case_1.scripts;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.chrome.ChromeDriver;
public class Test_Case_1 {
static WebDriver driver;
public static void main(String[] args) throws InterruptedException {
System.setProperty("webdriver.chrome.driver","c:/Users/Admin/drivers/chromedriver.exe");
driver = new ChromeDriver();
driver.get("https://www.gmail.com");
//driver.get("https://www.mycontactform.com";);
driver.manage().window().maximize();
Thread.sleep(3000);
//driver.quit();
WebElement username = driver.findElement(By.id("identifierId"));
//WebElement password = driver.findElement(By.name("hiddenPassword"));
//name="hiddenPassword"
username.sendKeys("tanmay.mali@somaiya.edu");
//password.sendKeys("");
WebElement login = driver.findElement(By.id("DH6Rkf"));
login.click();
try
{
Thread.sleep(2000);
//WebElement navBar = driver.findElement(By.id("js_u"));
System.out.println("Test Case Pass");
driver.close();
}
catch(Exception e)
{
System.out.print("Test Case Failed");
}
}
}
```

Output:

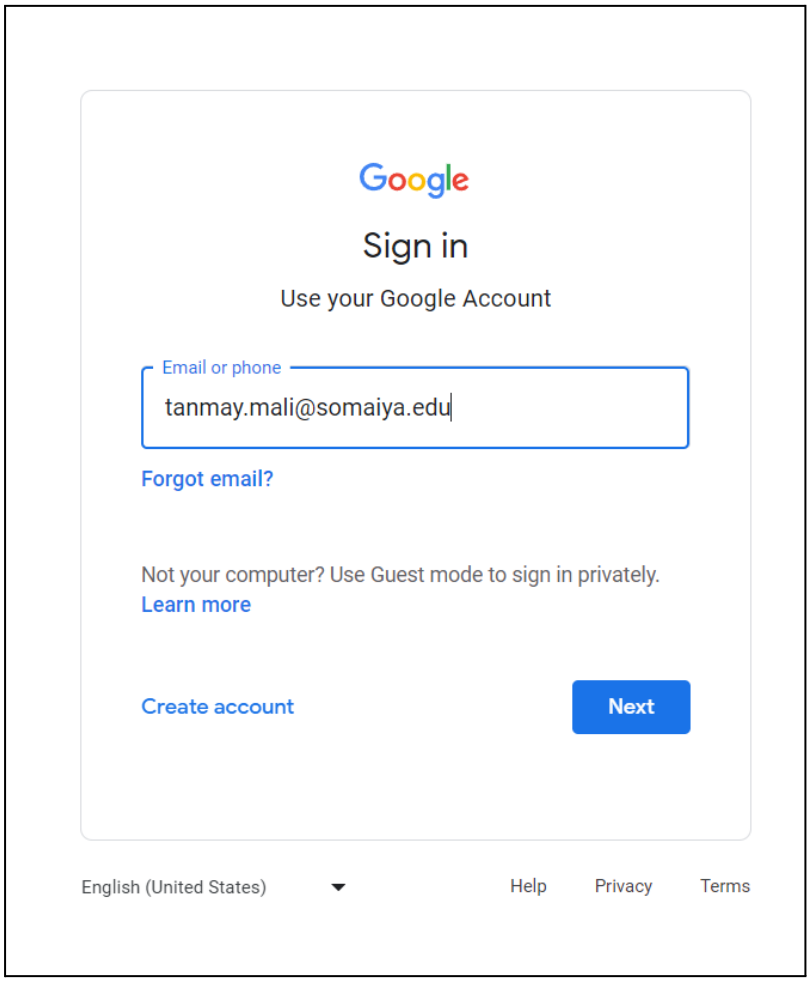
i) in eclipse



ii) in chrome



iii) Sign-in activity



It automatically enters the given email address

```
WebElement username = driver.findElement(By.id("identifierId"));
//WebElement password = driver.findElement(By.name("hiddenPassword"));
//name="hiddenPassword"
```

For this part —> the identifier id

ID

Right click on login page(labe)>inspect>take the name and ID from there

```
<input type="email" class="whsOnd zHQkBf" jsname="YPqjbf" autocomplete="username" spellcheck="false" tabindex="0"
aria-label="Email or phone" name="identifier" value autocapitalize="none" id="identifierId" dir="ltr" data-initial-
dir="ltr" data-initial-value="tanmay.mali@somaiya.edu" badinput="false"> == $0
```

Same thing for password

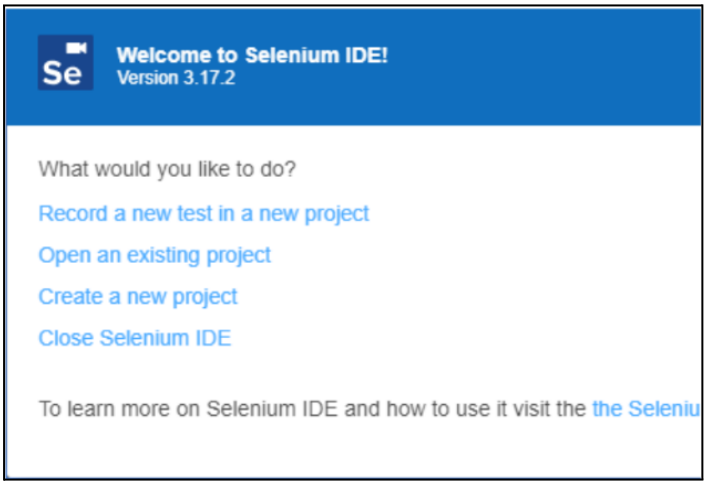
```
<input type="password" class="whsOnd zHQkBf" jsname="YPqjbf" autocomplete="current-password" spellcheck=
"false" tabindex="0" aria-label="Enter your password" name="Passwd" autocapitalize="off" dir="ltr" data-
initial-dir="ltr" data-initial-value> == $0
```

Practical 3: Install the Selenium server (Selenium RC) and demonstrate it using a script in Java/PHP.

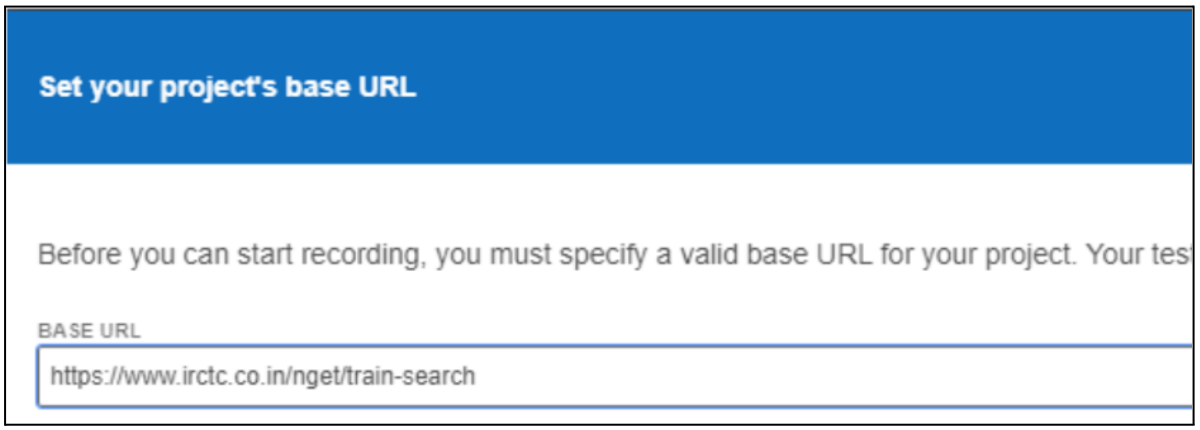
Steps:

1. Add a Selenium IDE extension in your google chrome.

2. Create a new project and test case.

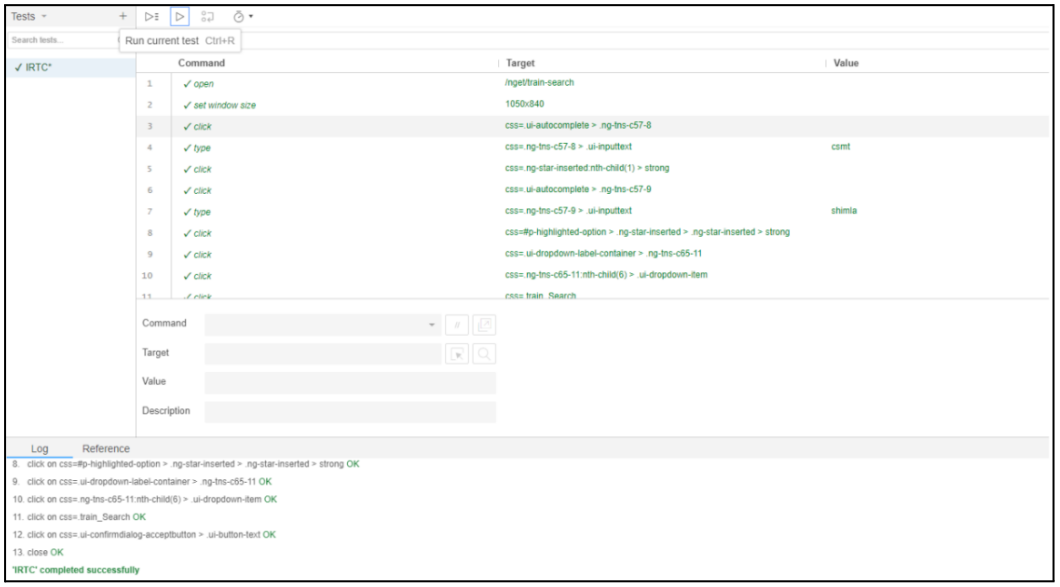


3. For 1st test, add the url of IRTC site.



4. Start recording and do the following tasks for testing of IRCTC.

5. Check the test case, by clicking run :



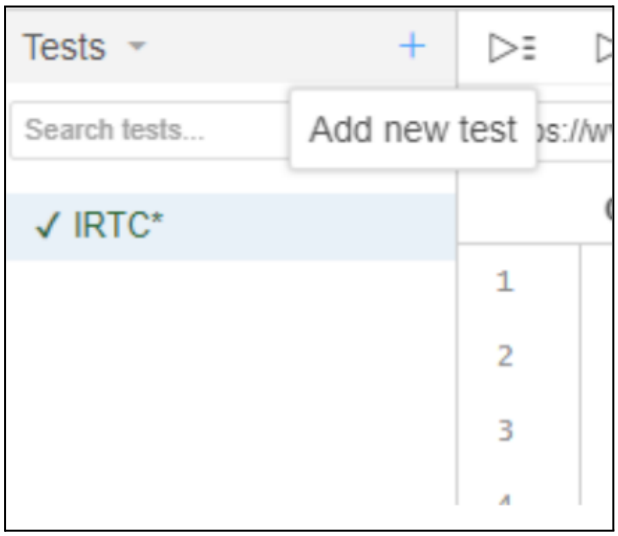
	Command	Target	Value
1	✓ open	/nget/train-search	
2	✓ set window size	1050x840	
3	✓ click	css=.ui-autocomplete > .ng-tns-c57-8	
4	✓ type	css=.ng-tns-c57-8 > .ui-inputtext	csmt
5	✓ click	css=.ng-star-inserted:nth-child(1) > strong	
6	✓ click	css=.ui-autocomplete > .ng-tns-c57-9	
7	✓ type	css=.ng-tns-c57-9 > .ui-inputtext	shimla
8	✓ click	css=#p-highlighted-option > .ng-star-inserted > .ng-star-inserted > strong	
9	✓ click	css=.ui-dropdown-label-container > .ng-tns-c65-11	
10	✓ click	css=.ng-tns-c65-11:nth-child(6) > .ui-dropdown-item	
11	✓ click	css=.train_Search	

Log Reference

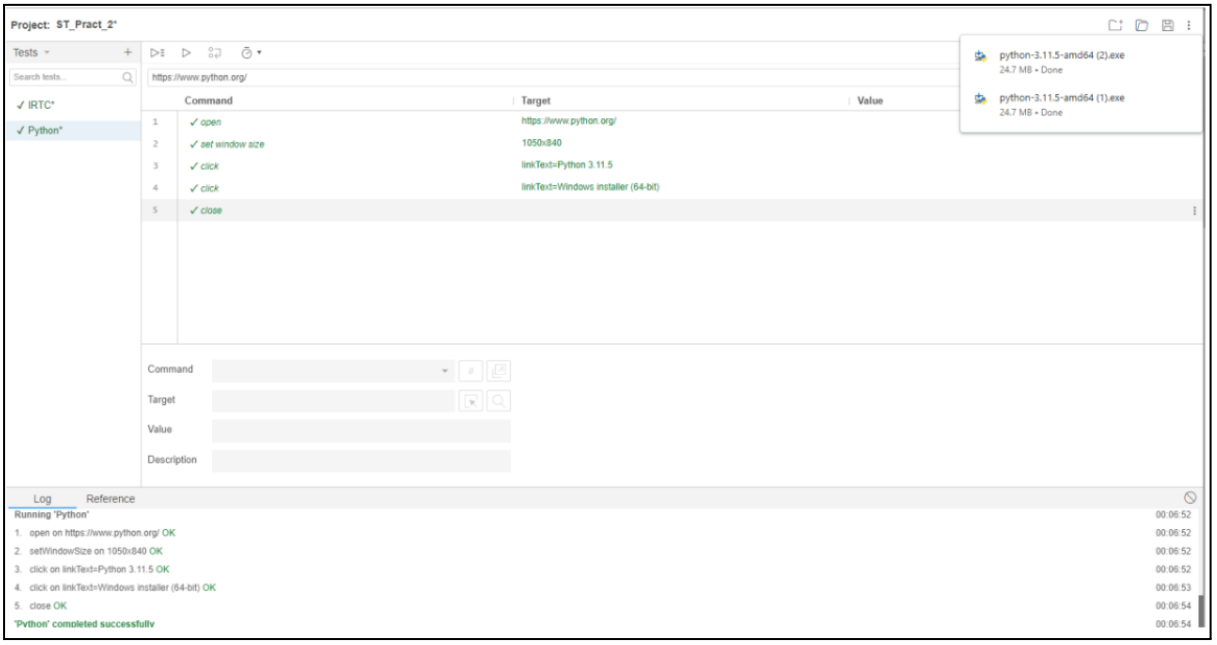
8. click on css=#p-highlighted-option > .ng-star-inserted > .ng-star-inse
9. click on css=.ui-dropdown-label-container > .ng-tns-c65-11 OK
10. click on css=.ng-tns-c65-11:nth-child(6) > .ui-dropdown-item OK
11. click on css=.train_Search OK
12. click on css=.ui-confirmdialog-acceptbutton > .ui-button-text OK
13. close OK

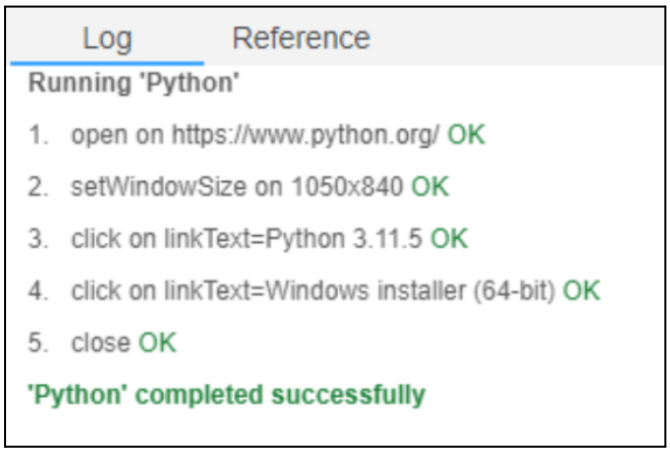
'IRTC' completed successfully

6. Add a new test case named python and add url of python

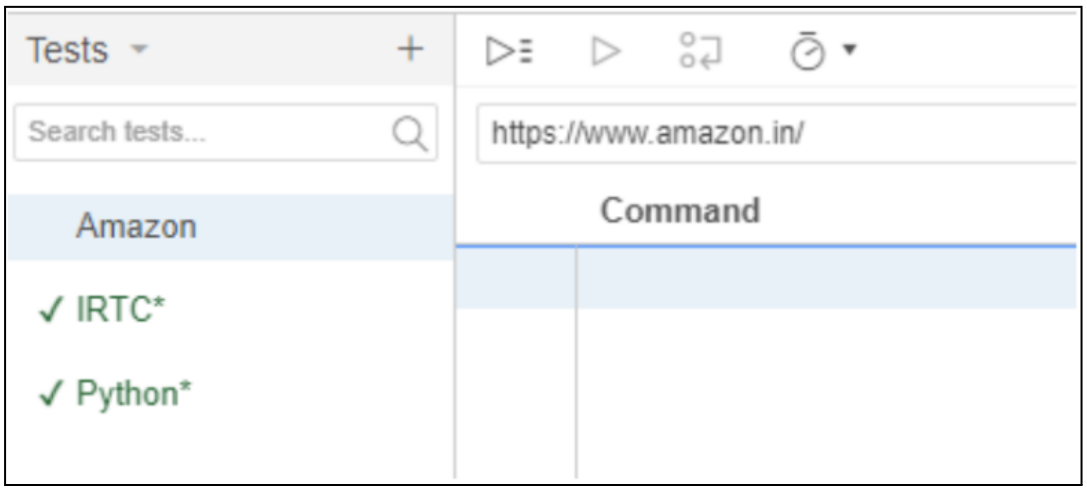


7. Check if the test case works properly, by clicking run :

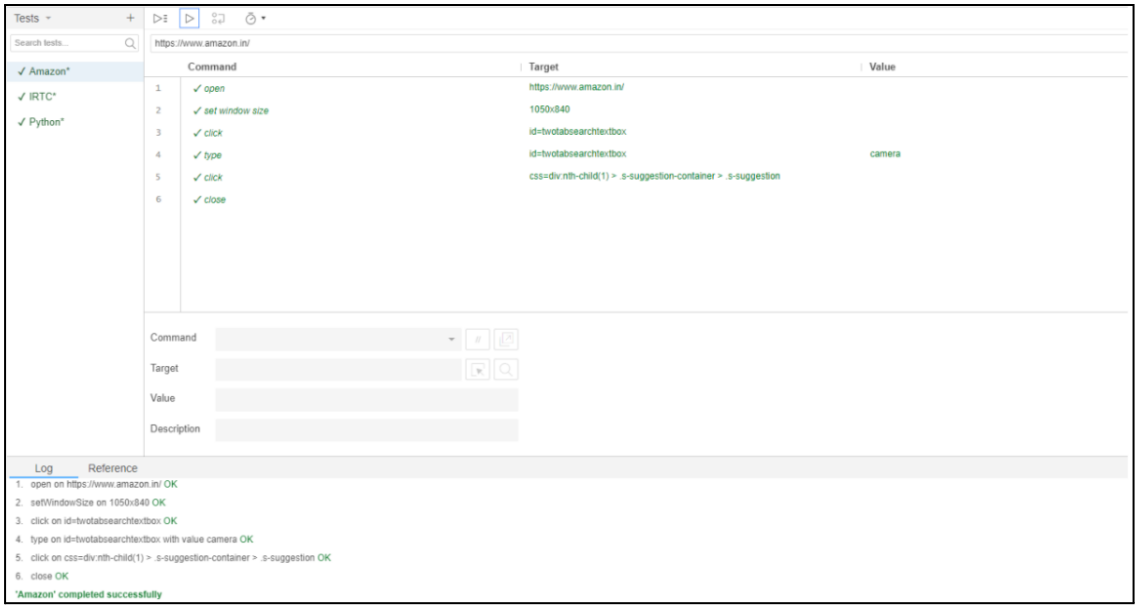




8. Create a new test for Amazon too



9. Check if the test case run properly by clicking run:-



Running 'Amazon'

1. open on https://www.amazon.in/ OK
2. setWindowSize on 1050x840 OK
3. click on id=twotabsearchtextbox OK
4. type on id=twotabsearchtextbox with value camera OK
5. click on css=div:nth-child(1) > .s-suggestion-container > .s-suggestion OK
6. close OK

'Amazon' completed successfully

Practical 5: Write an HTML program to calculate the HCF and GCD of two numbers. Then, write a code in Eclipse to automatically check if the HTML calculates the HCF and GCD.

HTML CODE:

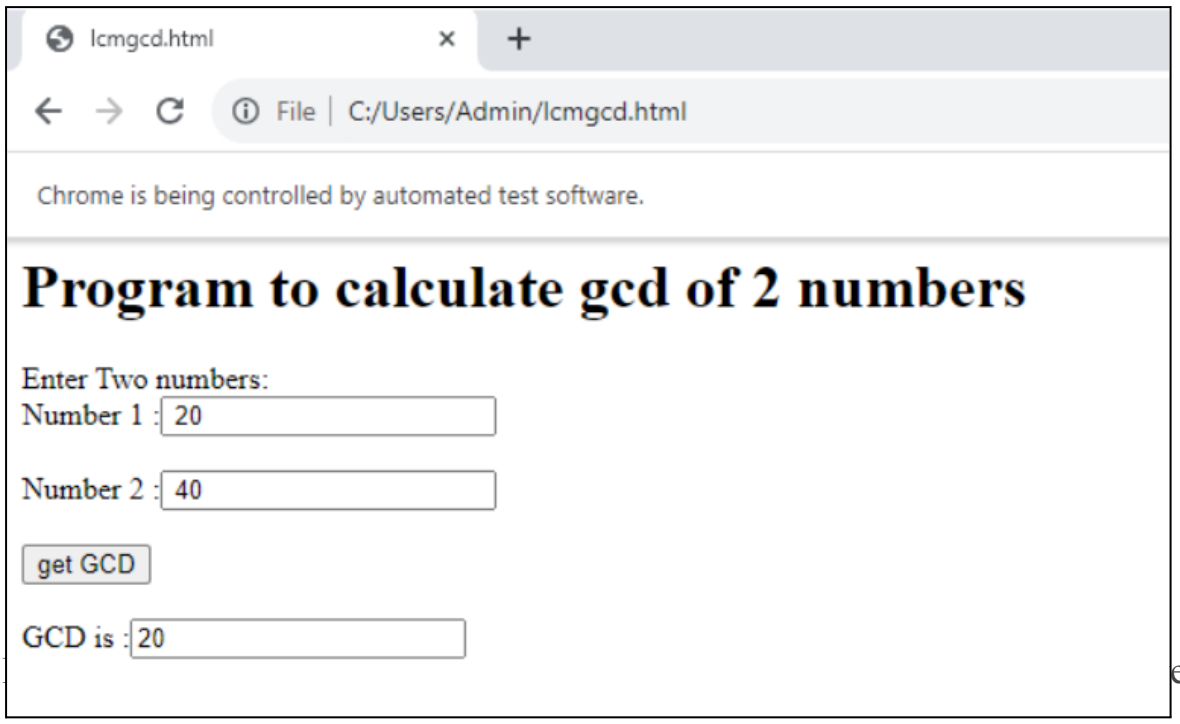
```
<html>
<head>
<script type ="text/javascript">
function gcd()
{
var x,y;
x=parseInt(document.myform.n1.value);
y=parseInt(document.myform.n2.value);
while(x!=y)
{
if(x>y)
x=x-y;
else
y=y-x;
}
document.myform.result.value=x;
}
</script>
</head>
<body>
<h1 >Program to calculate gcd of 2 numbers</h1>

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="">
</body>
</html>
```

ECLIPSE JAVA CODE :

Gcd.java

```
package practical7;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.chrome.ChromeDriver;
public class Gcd {
public static void main (String args[]) {
System.setProperty("webdriver.chrome.driver","C:/Users/Admin/Downloads/chromedriver.exe");

WebDriver driver = new ChromeDriver();
driver.get("file:///C:/Users/Admin/lcmgcd.html");
driver.manage().window().maximize();
driver.findElement(By.name("n1")).sendKeys("20");
driver.findElement(By.name("n2")).sendKeys("40");
driver.findElement(By.name("Get GCD")).click();
String result =
driver.findElement(By.name("result")).getAttribute("Values");
System.out.println("Result is:"+result);
}
}
```

OUTPUT:



eb

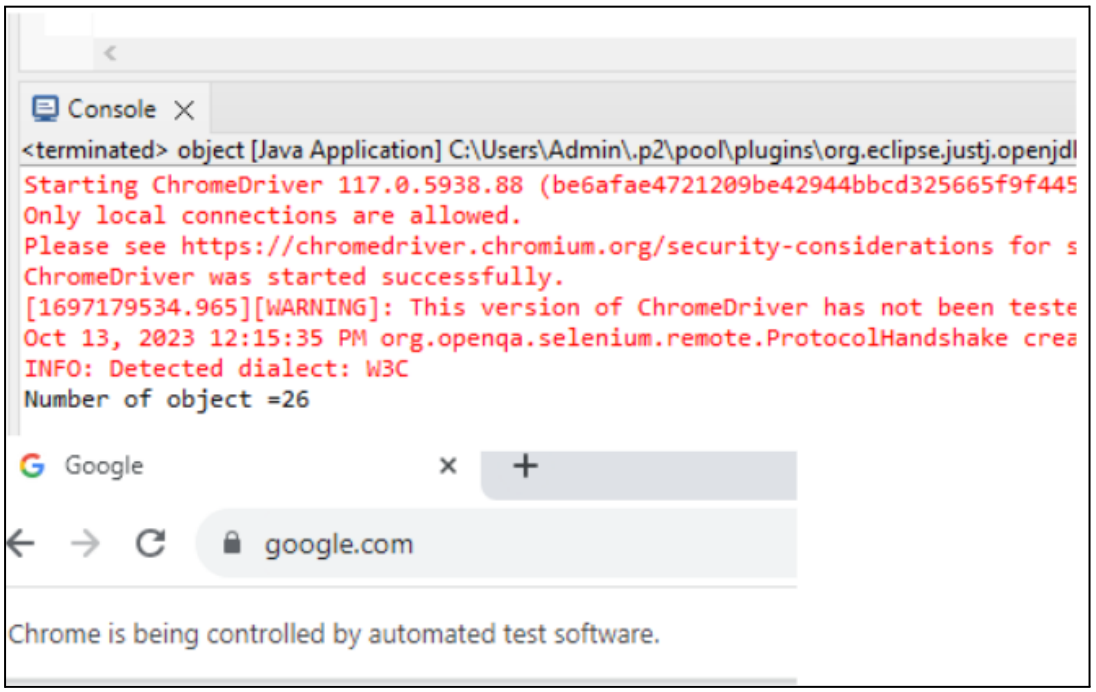
elements on google page

ECLIPSE CODE:

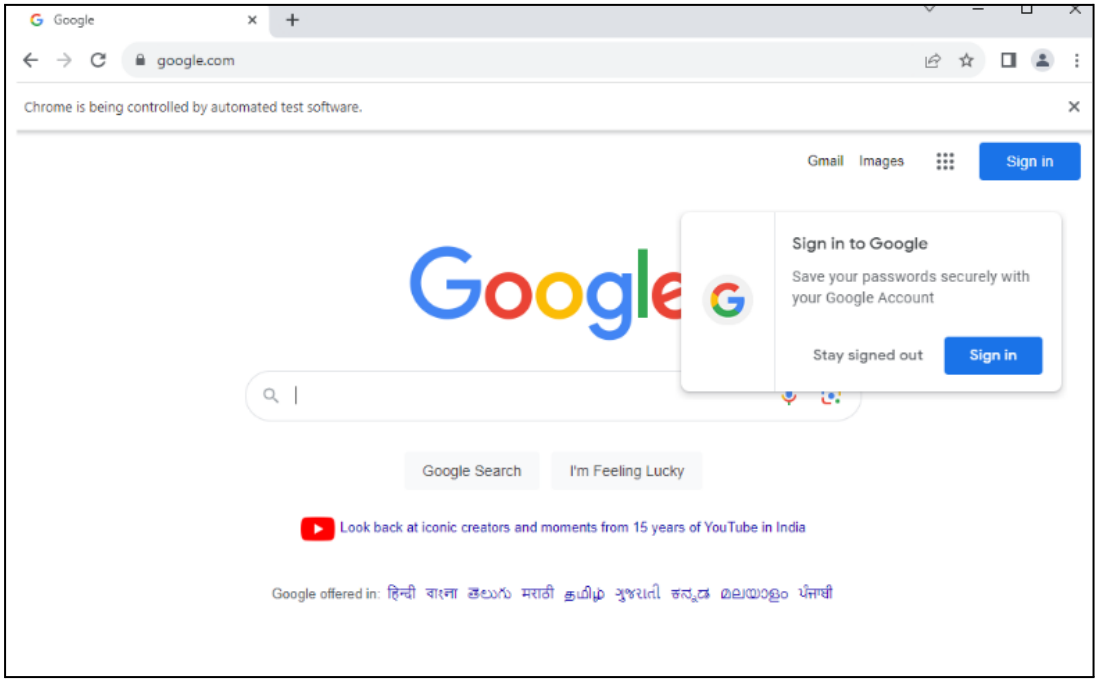
```
package practical6;
import java.util.List;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.chrome.ChromeDriver;

public class object {
public static void main(String[] args) {
System.setProperty("webdriver.chrome.driver","C:/Users/Admin/Downloads/chromedriver.exe");



WebDriver driver=new ChromeDriver();
driver.get("https://www.google.com");

List <WebElement> mylist= driver.findElements(By.xpath("//a"));
System.out.println("Number of object =" +mylist.size());
}

}
```

OUTPUT:

i) eclipse output



ii)chrome browser output

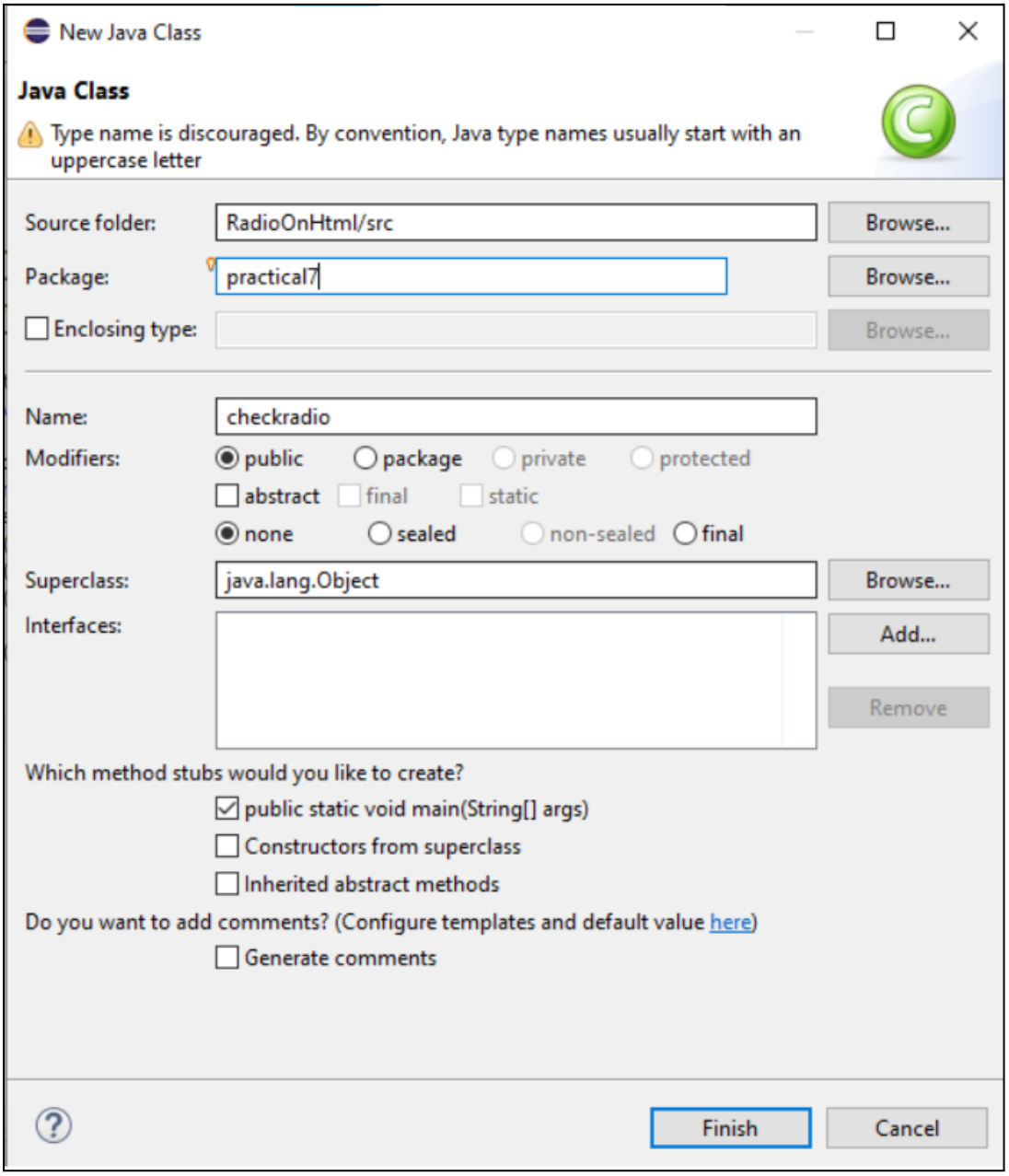


Practical 7:Write an HTML code for a web page with radio buttons as well as checkboxes. Then, write a code in Eclipse to check the number of checkboxes and radio buttons that have been selected/checked on that web page

HTML CODE (Radio.html):

```
<html>
<body>
<form>

<h2>Select Gender</h2>
<input type="radio" name="gender" value="male"
checked> Male<br>
<input type="radio" name="gender" value="female">
Female<br>
<input type="radio" name="gender" value="other"
checked> Other<br>
<h2>Select Languages Known</h2>
<input type="checkbox" name="lang" value="Java"
checked="checked"> Java<br>
<input type="checkbox" name="lang" value="PHP"
checked="checked"> PHP<br> <input type="checkbox"
name="lang" value="C#"> C#<br>
<input type="checkbox" name="lang" value="Python"
checked="checked"> Python<br> <input
type="checkbox" name="lang" value="Ruby"> Ruby<br>
<br><br>
<input type="submit" value="Submit">
</form>
</body>
</html>
```

Name the package while creating the class

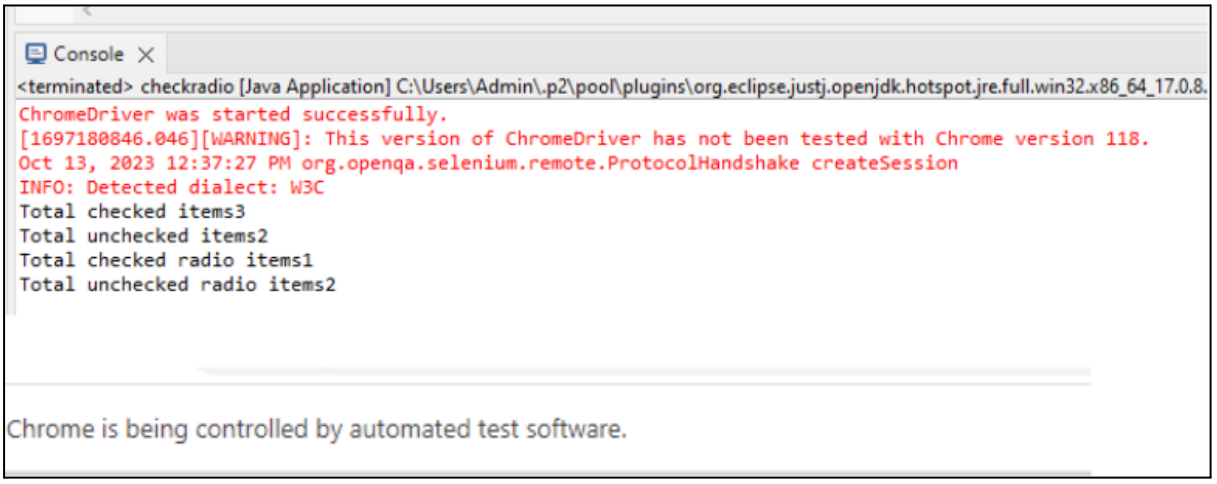


ECLIPSE JAVA CODE:

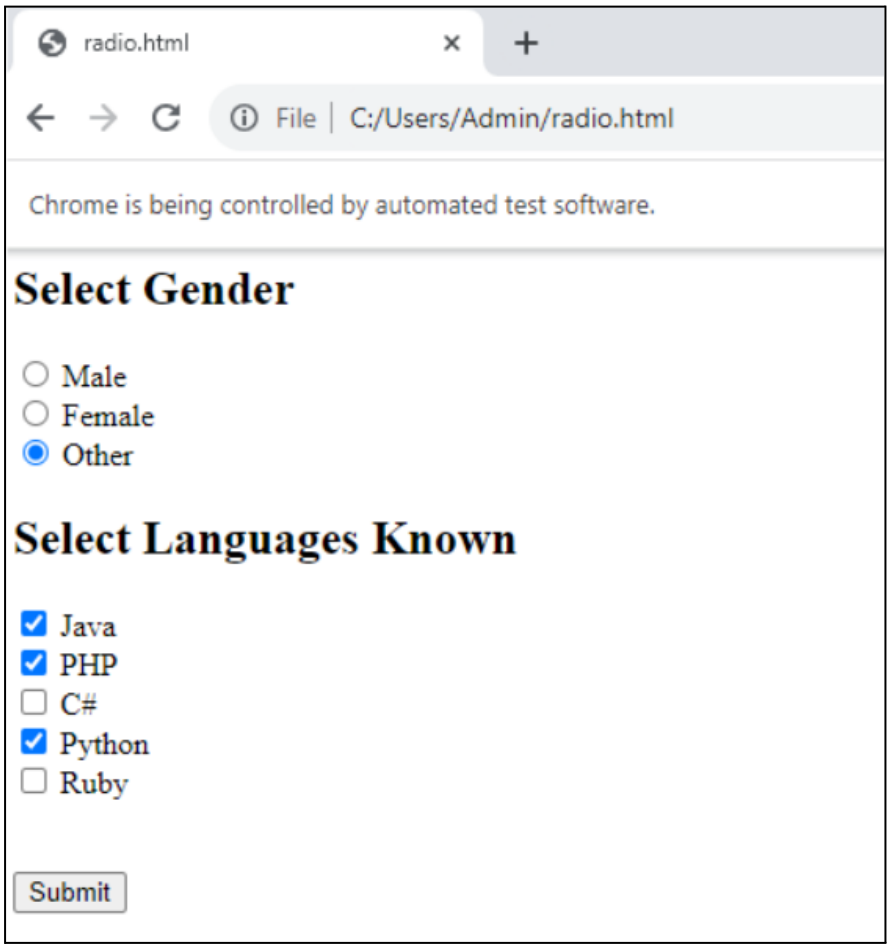
```
package practical7;
import java.util.*;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.chrome.ChromeDriver;
public class checkradio {
public static void main(String args[])
{
System.setProperty("webdriver.chrome.driver","C:/Users/Admin/Downloads/chromedriver.exe");
WebDriver driver = new ChromeDriver();
driver.get("file:///C:/Users/Admin/radio.html");
int chk = 0;
int unchk = 0;
int rchk = 0;
int runchk = 0;
List <WebElement> els =
driver.findElements(By.xpath("//input[@type='checkbox']")); for(WebElement el :els)
{
if(el.isSelected()) {
chk++;
}
else{
unchk++;
}
}
System.out.println("Total checked items" + chk);
System.out.println("Total unchecked items" + unchk);
List <WebElement> elm =
driver.findElements(By.xpath("//input[@type='radio']")); for(WebElement ell : elm)
{
if(ell.isSelected()) {
rchk++;
}
else{
runchk++;
}}
System.out.println("Total checked radio items" + rchk);
System.out.println("Total unchecked radio items" + runchk);}}
```

OUTPUT:

i) Eclipse output

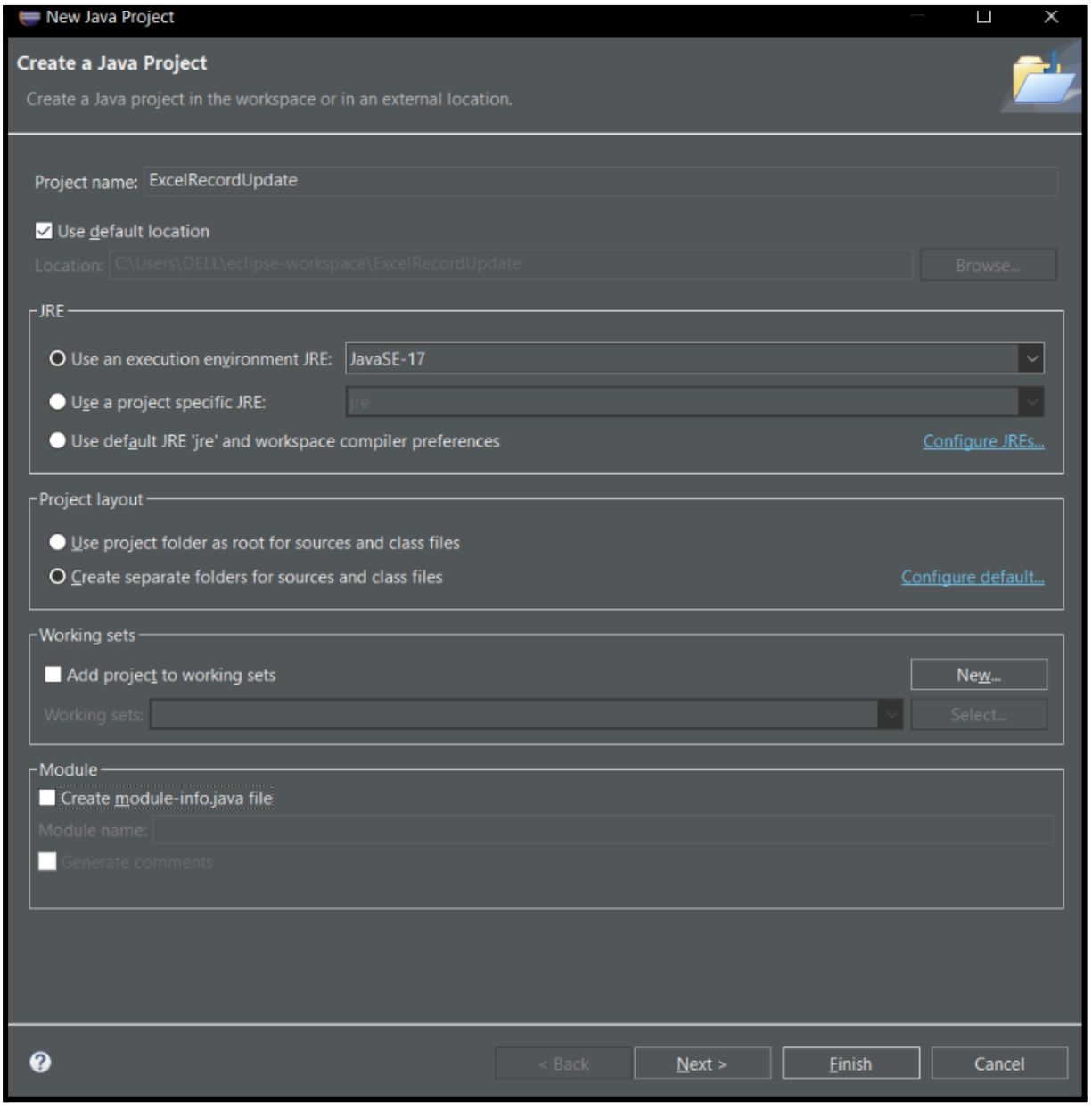


ii)Browser output



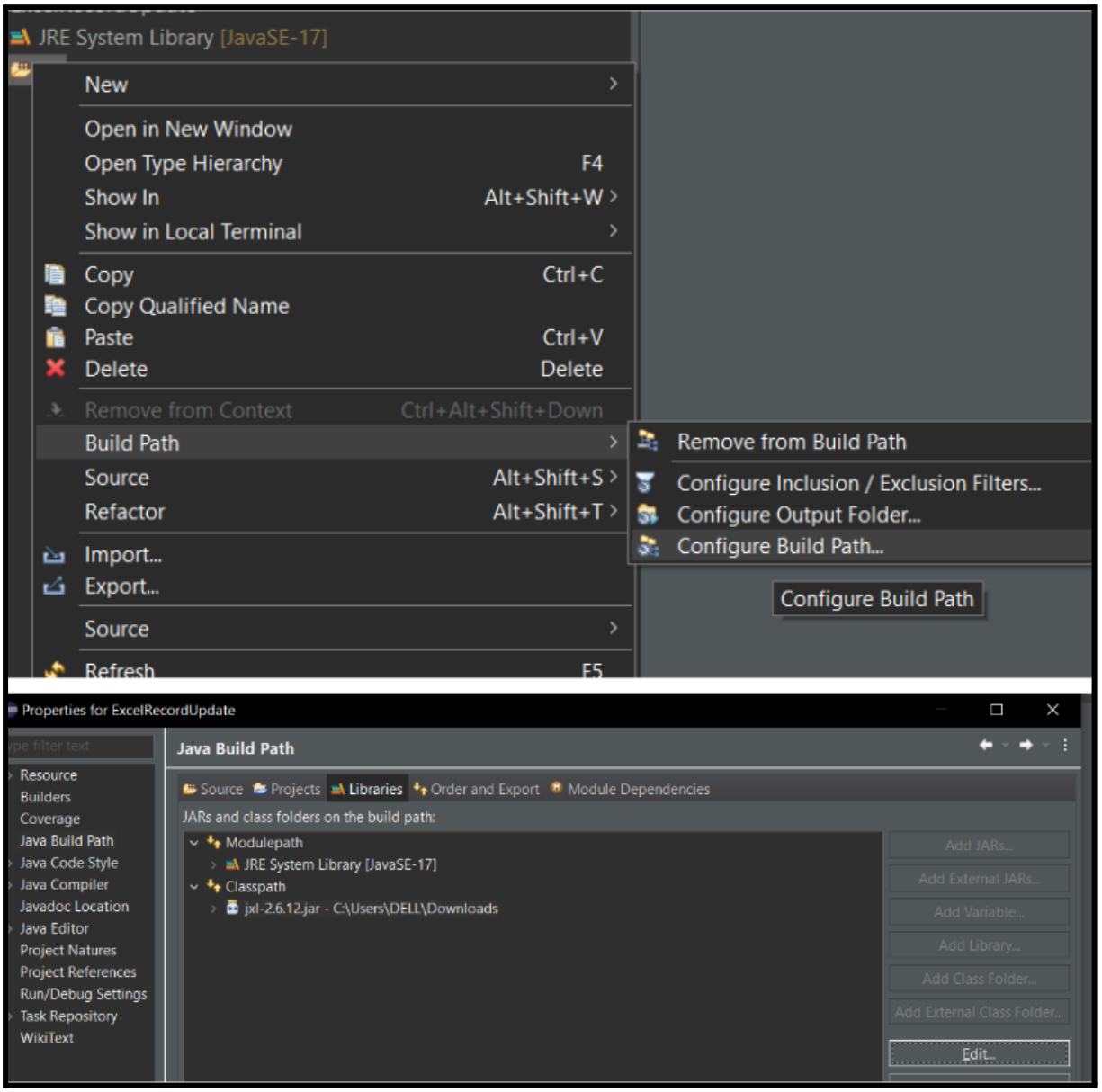
Practical 8: Excel Record updation automation using Eclipse and Selenium using the jxl.jar file

- File > New Project > ExcelRecordUpdation(Project name)

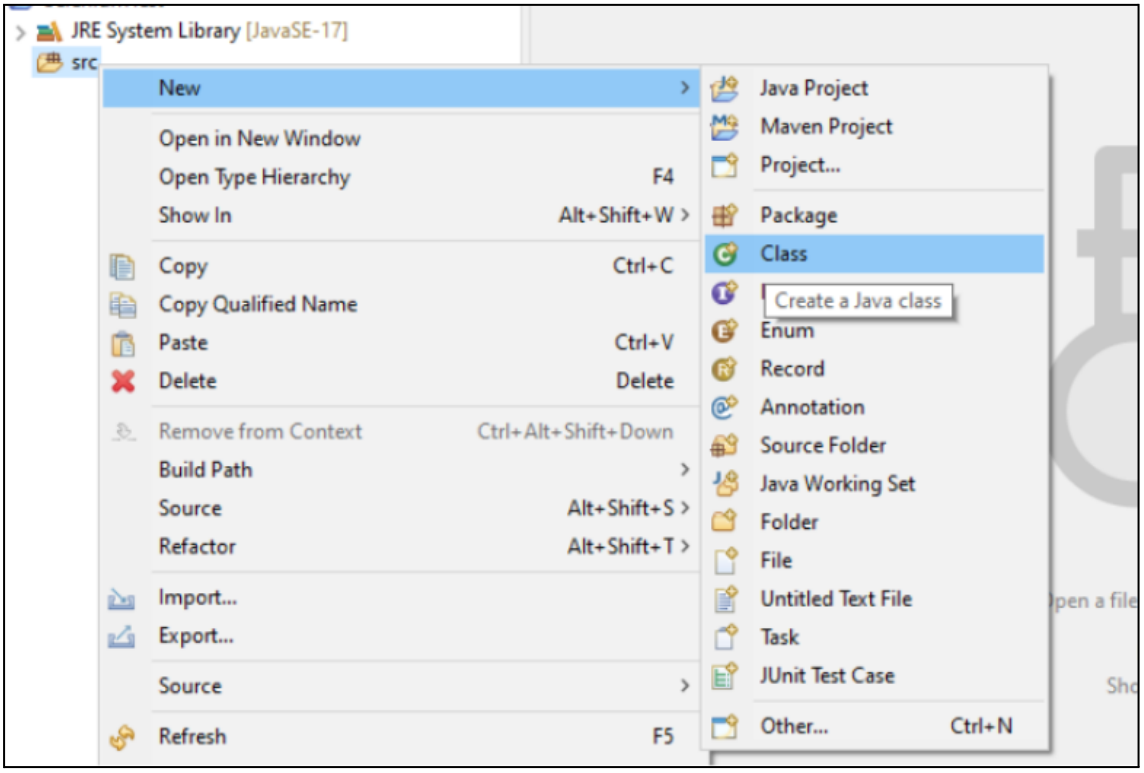


Add the jxl.jar file using build classpath:

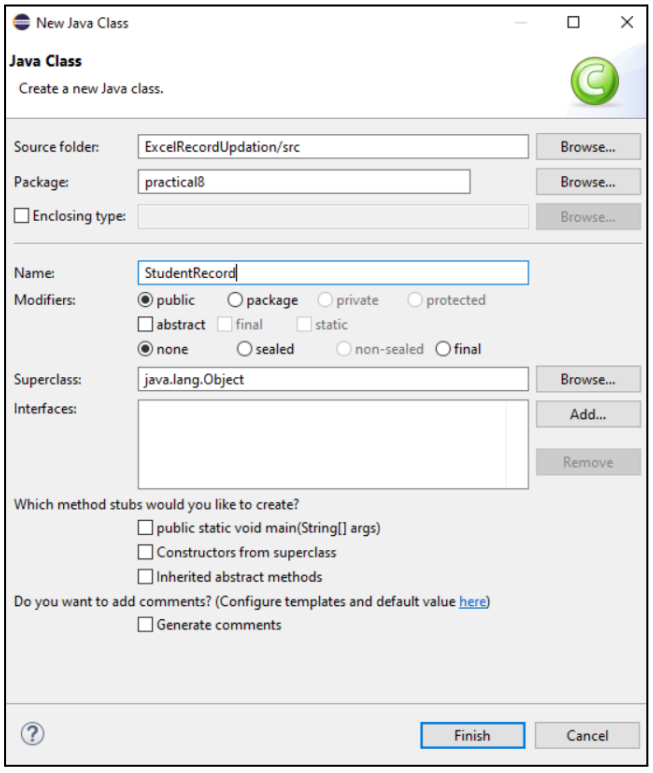
- src > Right click > Configure Build Path > Libraries > Classpath > Add External JARs



Create a Java Class: Right click on src > New > Class



Java class details



ECLIPSE JAVA CODE:

StudentRecord.java

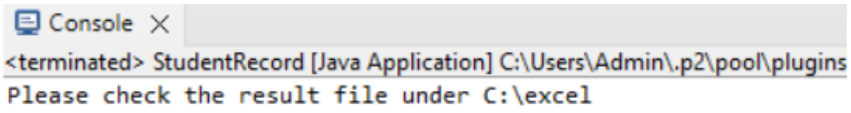
```
package practical8;
import java.io.File;
import java.io.IOException;
import java.util.Locale;
import jxl.CellView;
import jxl.Workbook;
import jxl.WorkbookSettings;
import jxl.format.UnderlineStyle;
import jxl.write.Formula;
import jxl.write.Label;
import jxl.write.Number;
import jxl.write.WritableCellFormat;
import jxl.write.WritableFont;
import jxl.write.WritableWorkbook;
import jxl.write.WritableSheet;
import jxl.write.WriteException;
import jxl.write.biff.RowsExceededException;
public class StudentRecord {
private WritableCellFormat timeBoldUnderline;
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 {
WritableFont time10pt = new WritableFont(WritableFont.TIMES, 10);
times = new WritableCellFormat(time10pt);
times.setWrap(true);
```

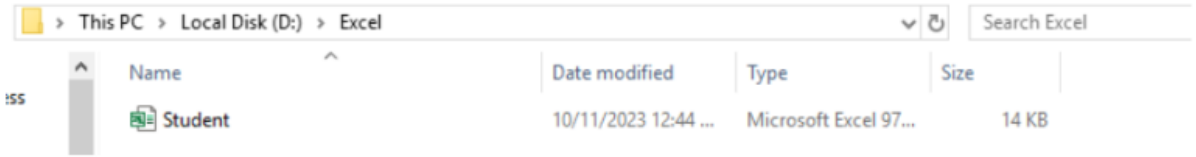
```
WritableFont times10ptBoldUnderline = new
WritableFont(WritableFont.TIMES , 10 , WritableFont.BOLD , false,
UnderlineStyle.SINGLE);
timeBoldUnderline = new WritableCellFormat(times10ptBoldUnderline);
timeBoldUnderline.setWrap(true);
CellView cv = new CellView();
cv.setFormat(times);
cv.setFormat(timeBoldUnderline);
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 {
for (int i = 1; i<10;i++) {
addLabel(sheet, 0, i, "Student " +i);
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, timeBoldUnderline);
sheet.addCell(label);
}
private void addNumber(WritableSheet sheet, int column, int row, Integer
integer)
throws RowsExceededException, WriteException {
Number number;
number = new Number(column, row, integer, times);
sheet.addCell(number);
}
private void addLabel(WritableSheet sheet, int column, int row, String s)
throws RowsExceededException, WriteException {
Label label;
label = new Label(column, row, s, times);
sheet.addCell(label);
}
public static void main(String[] args) throws WriteException, IOException {
StudentRecord test = new StudentRecord();
```

```
test.setOutputFile("E:\\Excel\\Student.xlsx");
test.write();
System.out.println("Please check the result file under C:\\excel");
}
}
```

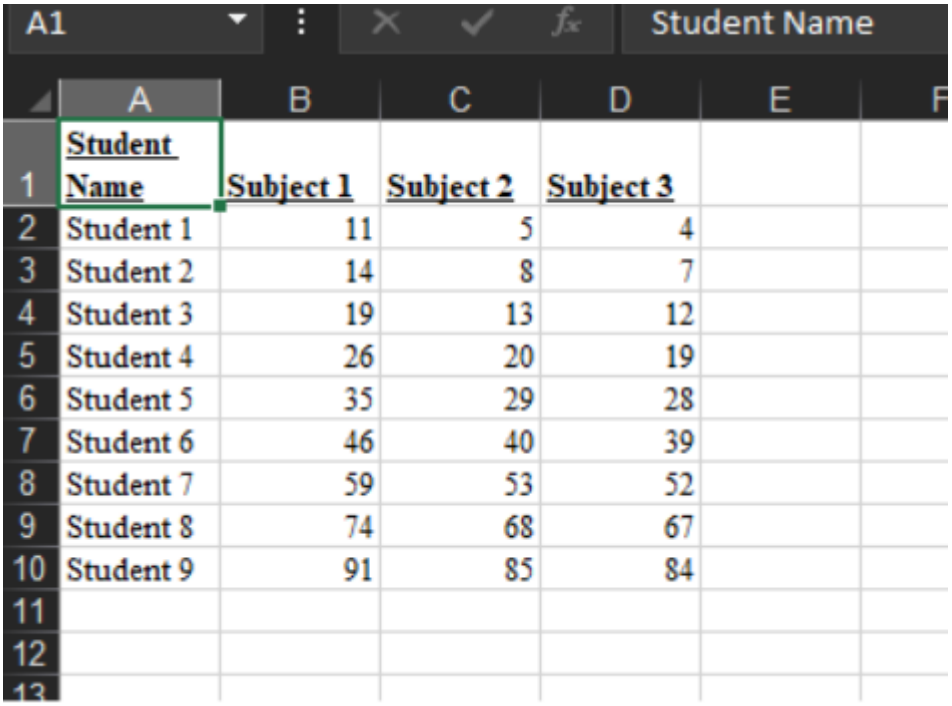
OUTPUT:

i) eclipse





ii)Student.xls (excel file)



	A	B	C	D	E
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					
12					