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S.I.E.S College of Arts, Science and Commerce
Sion(W), Mumbai – 400 022.

CERTIFICATE

This is to certify that Mr. / Miss. **Mondal Shuvo Prallard**
Roll No.**TCS2021048** Has successfully completed the necessary course of experiments in the subject of **Software Testing and Quality Assurance** during the academic year **2020 – 2021** complying with the requirements of **University of Mumbai**, for the course of **T.Y.BSc. Computer Science [Semester-5]**

Prof. In-Charge

Miss. Shivani Deopa
(Software Testing and Quality Assurance**)**

Examination Date:
Examiner's Signature & Date:
/ / 20

Head of the Department
Prof. Manoj Singh

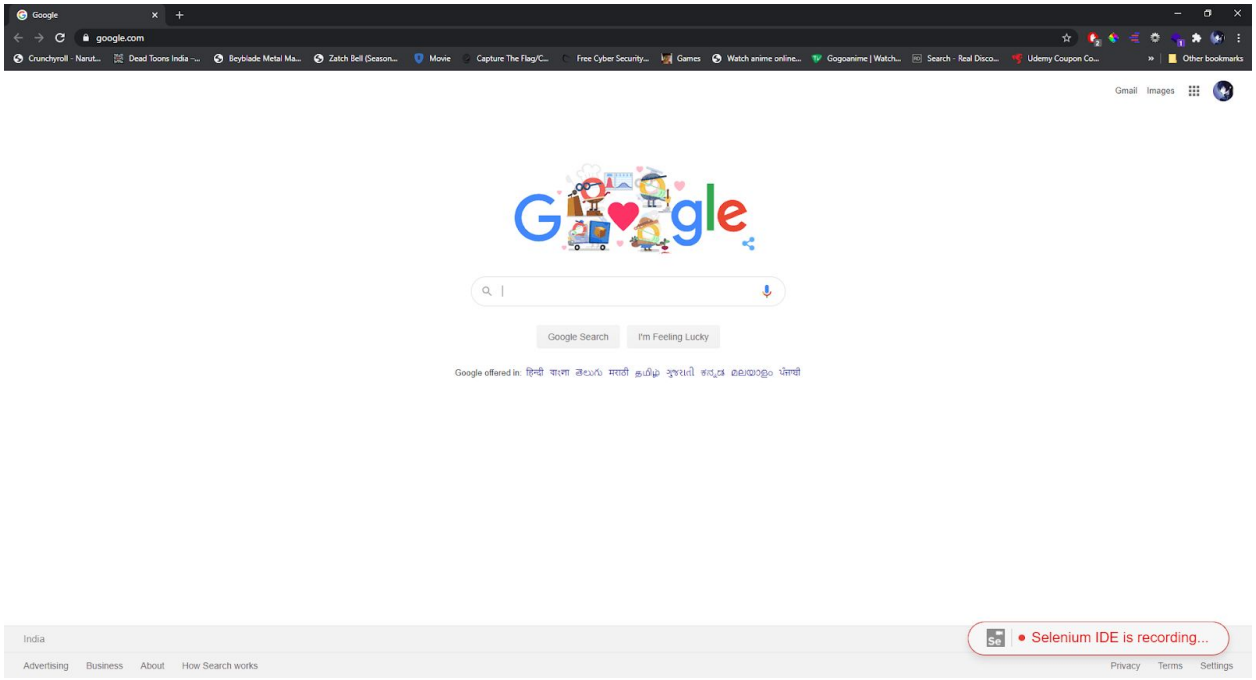
College Seal
And
Date

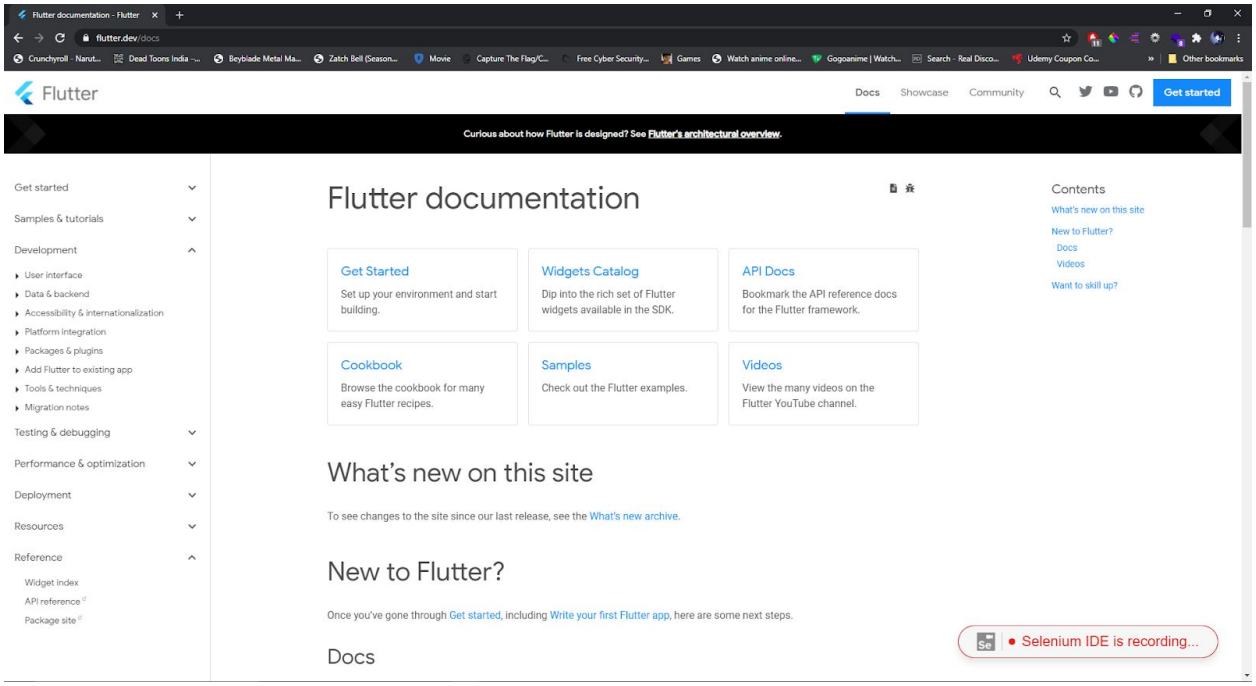
Index

Practical-1

Aim: Install Selenium IDE; Write a test suite containing a minimum of 4 test cases for different formats.

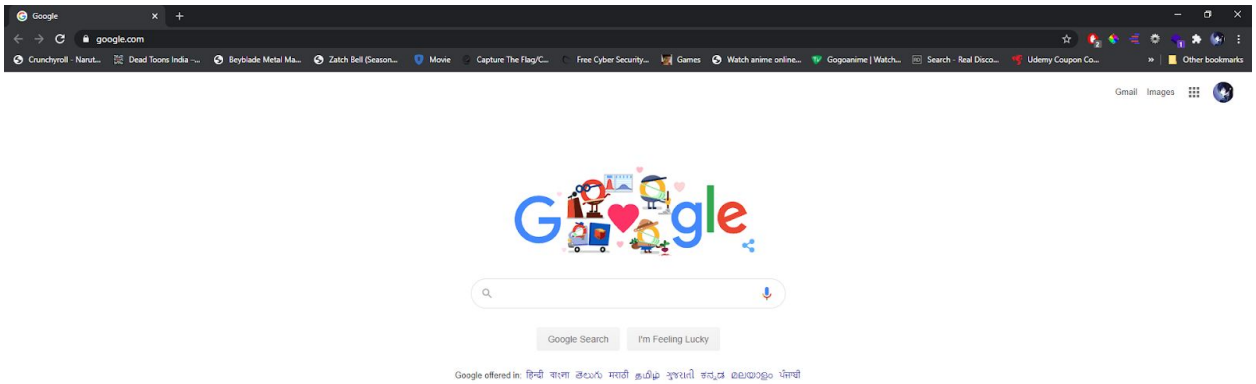
Test-1:

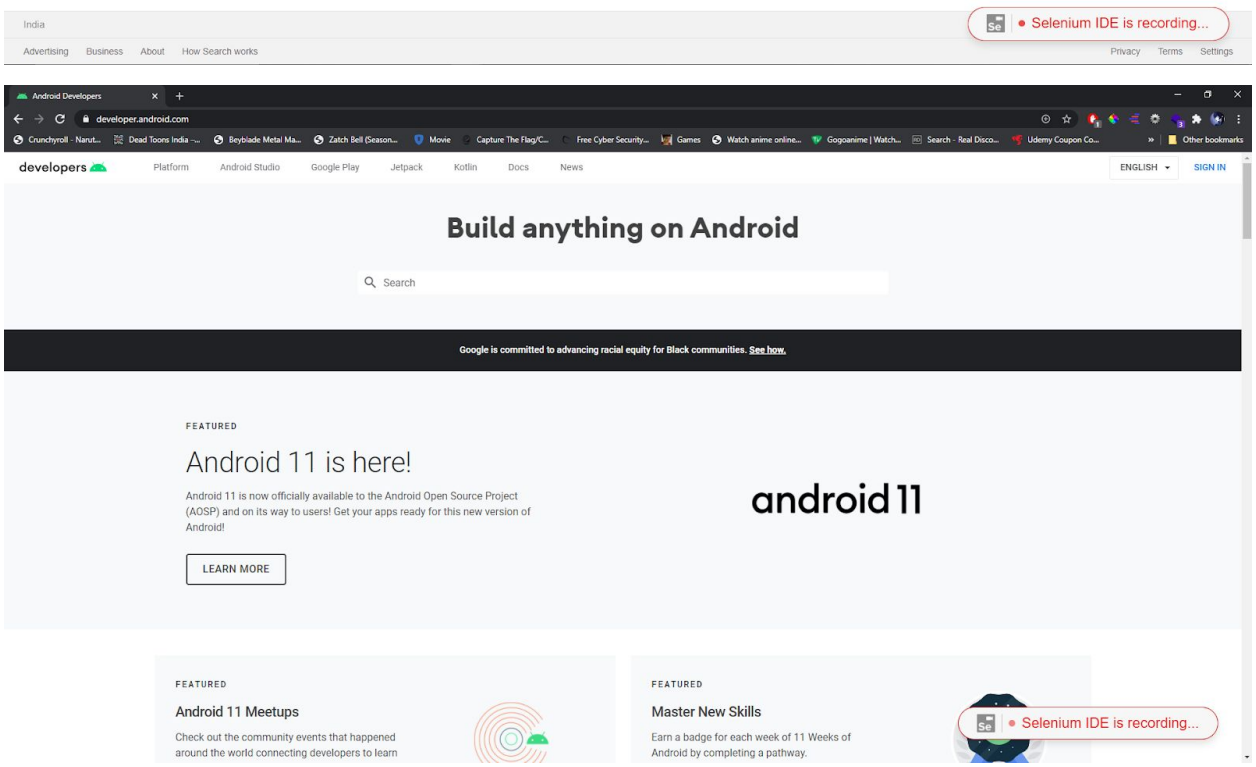




	Command	Target	Value
1	*open*	https://www.google.com/	
2	*set window size*	1936x1056	
3	*type*	name=q	flutter docs
4	*send keys*	name=q	${KEY_ENTER}
5	*click*	css=div:nth-child(2) > .rc:nth-child(1) .LC20lb	

Test-2:


Google
google.com
Gmail
Images
Google Search
I'm Feeling Lucky
Google offered in: हिन्दी বাংলা తెలుగు मराठी தமிழ் ગુજરાતી ಕನ್ನಡ മലയാളം ਪੰਜਾਬੀ


India
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Selenium IDE is recording...
Android Developers
developer.android.com
developers
Platform
Android Studio
Google Play
Jetpack
Kotlin
Docs
News
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Build anything on Android
Search
Google is committed to advancing racial equity for Black communities. See how.
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Android 11 is now officially available to the Android Open Source Project (AOSP) and on its way to users! Get your apps ready for this new version of Android!
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Check out the community events that happened around the world connecting developers to learn
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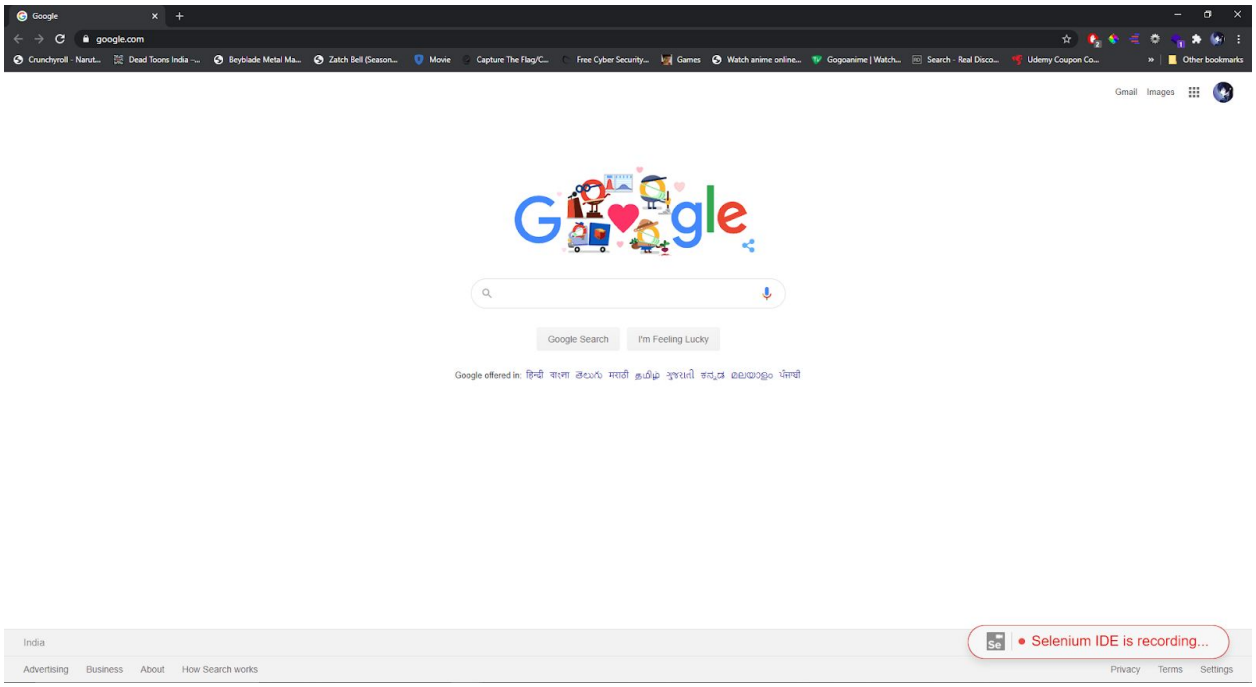
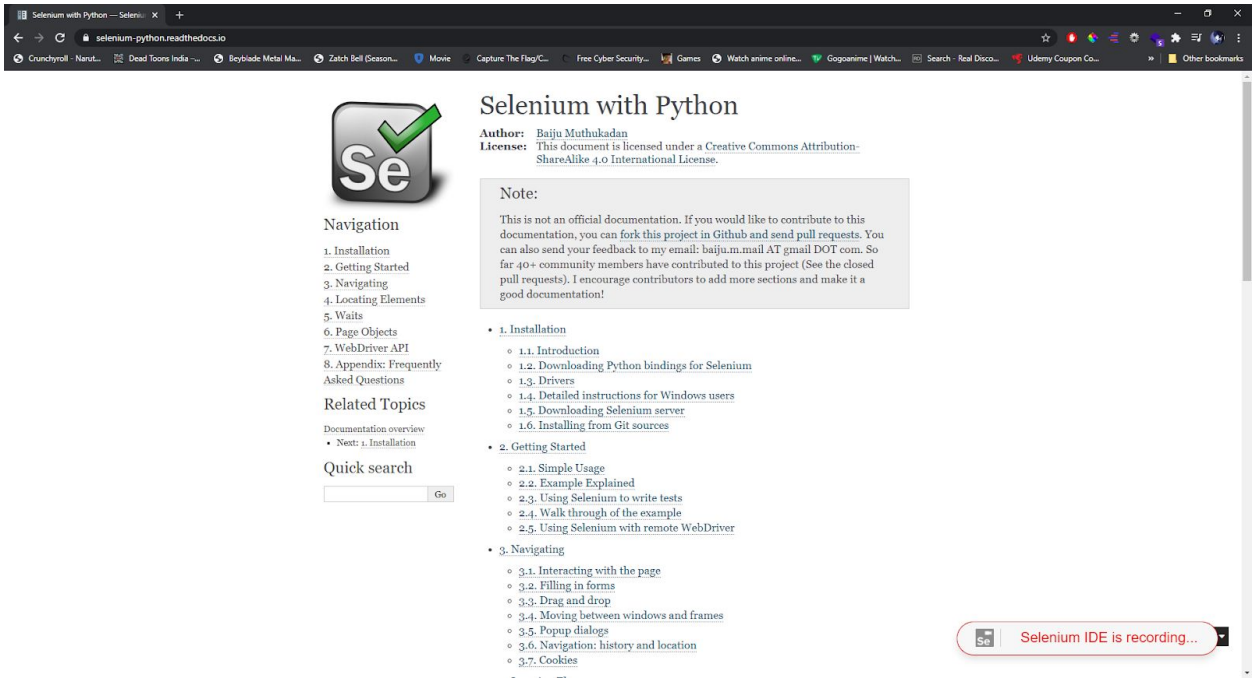
Earn a badge for each week of 11 Weeks of Android by completing a pathway.
Selenium IDE is recording...

https://www.google.com/

	Command	Target	Value
1	*open*	https://www.google.com/	
2	*set window size*	1936x1056	
3	*type*	name=q	andr
4	*send keys*	name=q	${KEY_DOWN}
5	*type*	name=q	android docs
6	*send keys*	name=q	${KEY_ENTER}
7	*mouse over*	css=.g > div > .rc .LC20lb	
8	*mouse out*	css=.g > div > .rc .LC20lb	
9	*click*	css=.g:nth-child(2) > .rc:nth-child(2) .LC20lb	

Test-3:


Google
google.com
Gmail
Images
Google Search
I'm Feeling Lucky
Google offered in: हिन्दी বাংলা తెలుగు मराठी தமிழ் ગુજરાતી ಕನ್ನಡ മലയാളം ਪੰਜਾਬੀ
India
Advertising
Business
About
How Search works
Privacy
Terms
Settings
Selenium IDE is recording...



https://www.google.com/

	Command	Target	Value
1	*open*	https://www.google.com/	
2	*set window size*	1936x1056	
3	*send keys*	name=q	${KEY_DOWN}
4	*type*	name=q	selenium docs
5	*send keys*	name=q	${KEY_ENTER}
6	*click*	css=.rc:nth-child(3) .LC20lb	
7	*mouse over*	css=ul:nth-child(3) > .toctree-l1:nth-child(1) > .reference	

Test-4:

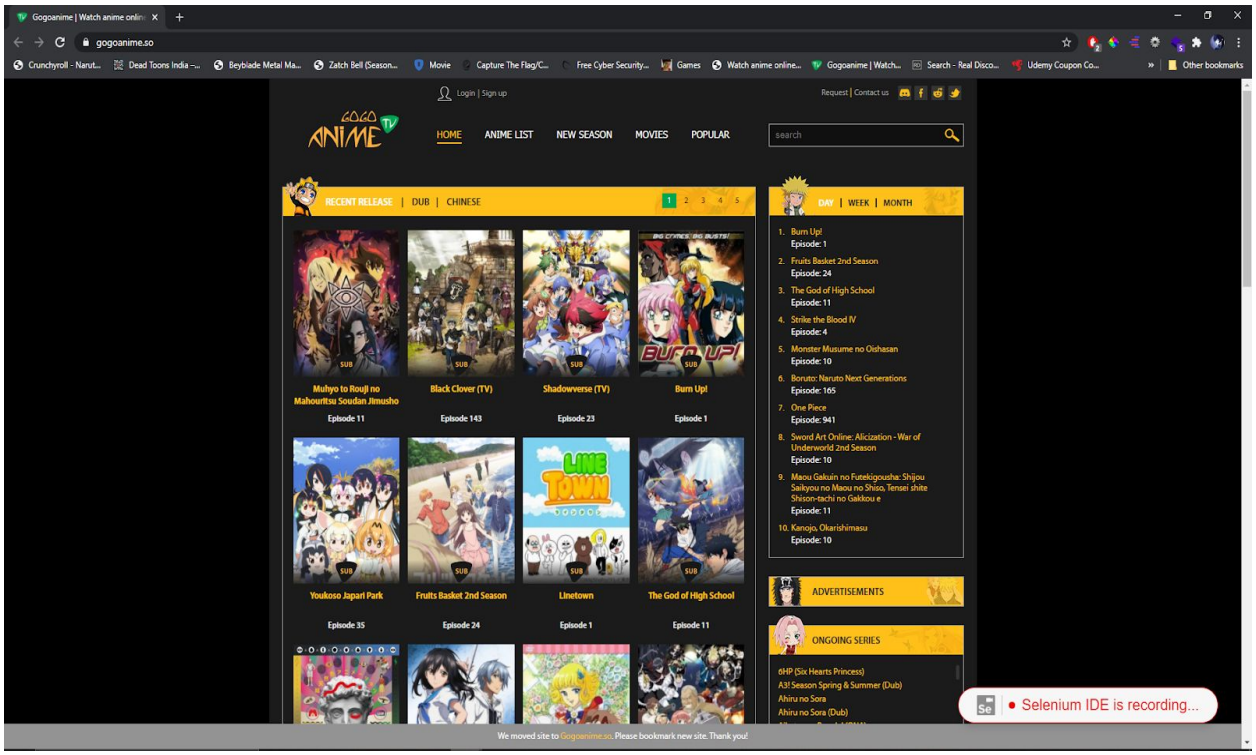

Web Scraping Explained
webharvy.com/articles/what-is-web-scraping.html#:~:text=Web%20Scraping%20(also%20termed%20Screen,in%20table%20(spreadsheet)%20format.
support@webharvy.com | sales@webharvy.com | YouTube Channel | KB Articles
Select Language
WebHarvy
Home
Help
Blog
Download
Buy
Contact
What is Web Scraping ?
Articles Home
Product Help
YouTube Channel
WebHarvy Blog
Web Scraping (also termed Screen Scraping, Web Data Extraction, Web Harvesting etc.) is a technique employed to extract large amounts of data from websites whereby the data is extracted and saved to a local file in your computer or to a database in table (spreadsheet) format.
Data displayed by most websites can only be viewed using a web browser. They do not offer the functionality to save a copy of this data for personal use. The only option then is to manually copy and paste the data - a very tedious job which can take many hours or sometimes days to complete. Web Scraping is the technique of automating this process, so that instead of manually copying the data from websites, the Web Scraping software will perform the same task within a fraction of the time.
Websites
Web Scraping Software
Structured data in file or database
JSON
CSV
How to easily scrape data from websites using WebHarvy ?
A web scraping software will automatically load and extract data from multiple pages of websites based on your requirement. It is either custom built for a specific website or is one which can be configured to work with
Selenium IDE is recording...

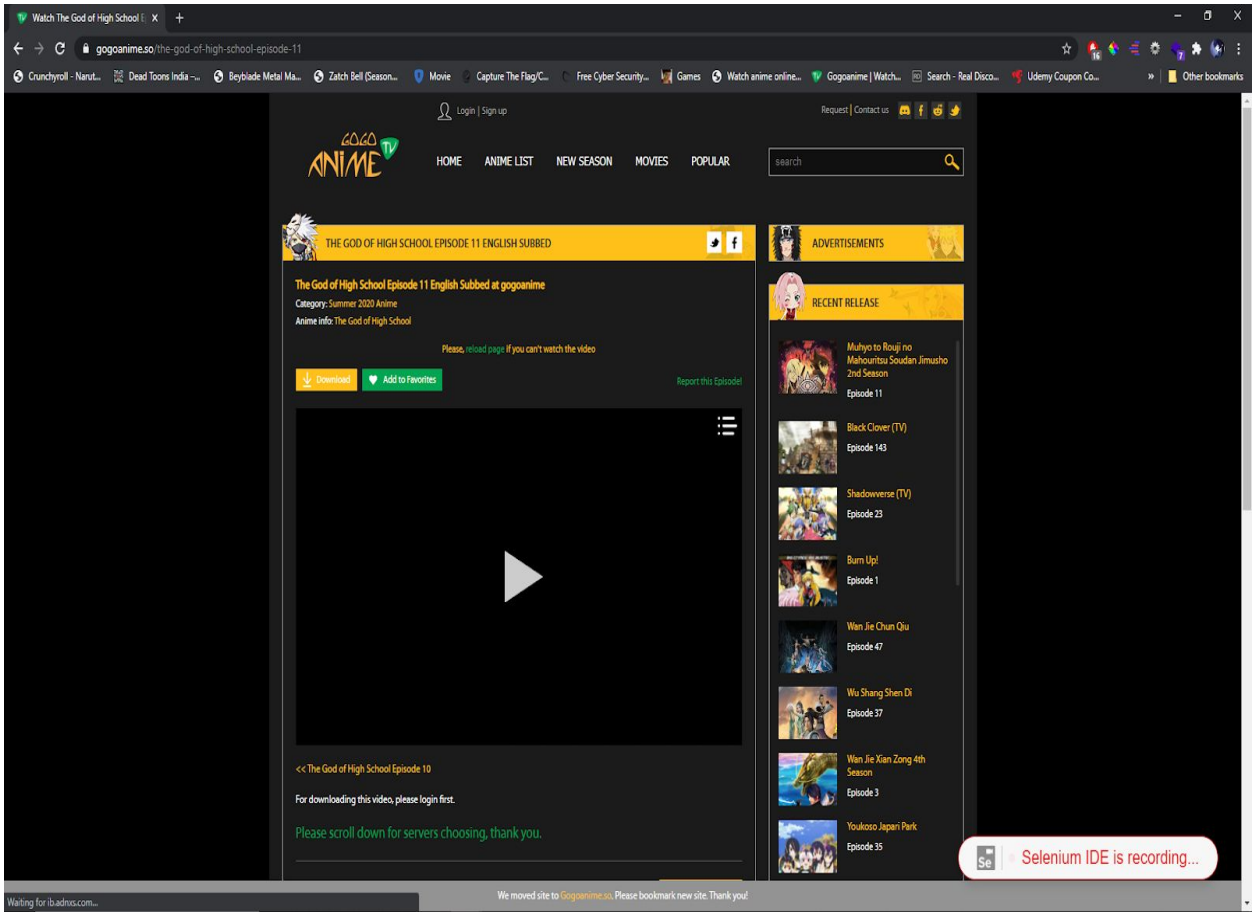

REC
https://www.google.com/
Command
Target
Value
1 open https://www.google.com/
2 set window size 1936x1056
3 send keys name=q ${KEY_DOWN}
4 type name=q web scraping
5 send keys name=q ${KEY_ENTER}
6 mouse over css=.g:nth-child(3) > .rc:nth-child(1) .LC20lb
7 click css=.g:nth-child(3) > .rc:nth-child(1) .LC20lb
8 mouse out css=.g:nth-child(3) > .rc:nth-child(1) .LC20lb

Practical-2:

Aim: Conduct a test suite for any two web sites.

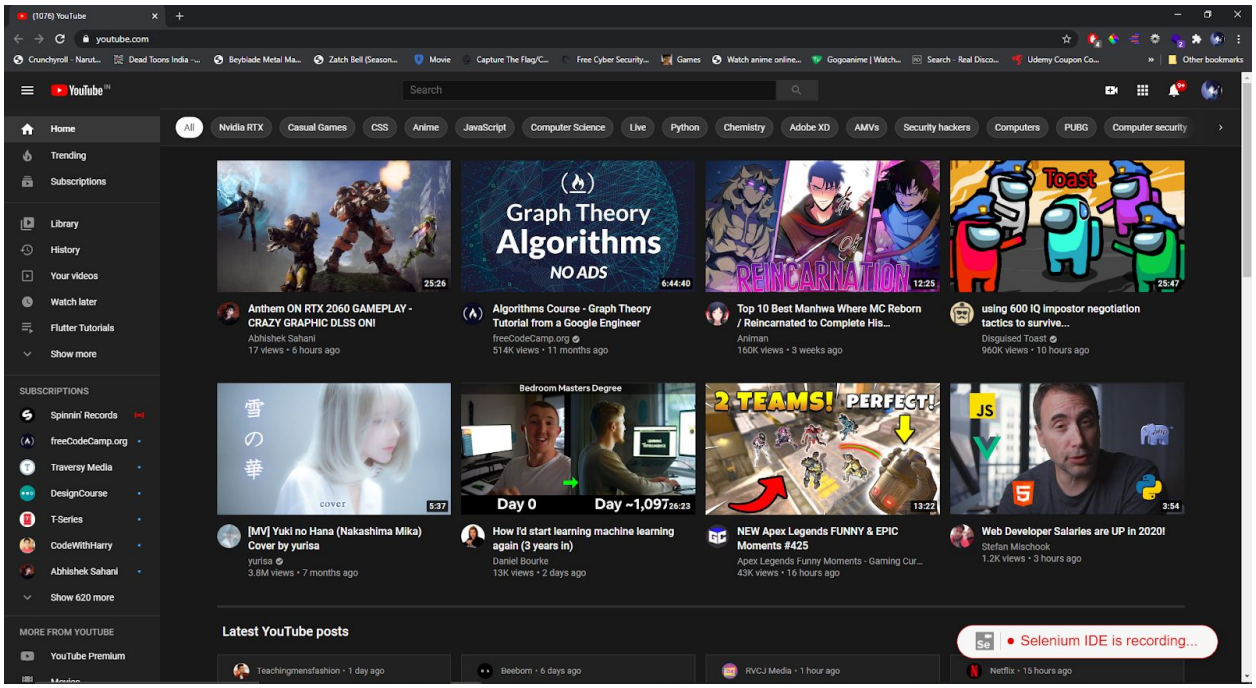
Test-1:





	Command	Target	Value
1	open	https://gogoanime.so/	
2	set window size	1936x1056	
3	click	css=li:nth-child(8) img	
4	select frame	index=0	
5	run script	window.scrollTo(0,0)	

Test-2:


(1076) YouTube
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YouTube
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Watch later
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Show more
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Show 620 more
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Algorithms
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Animan
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using 600 IQ impostor negotiation tactics to survive...
Disguised Toast
960K views • 10 hours ago
[MV] Yuki no Hana (Nakashima Mika) Cover by yurisa
yurisa
3.8M views • 7 months ago
Bedroom Masters Degree
Day 0
Day ~1,097
How I'd start learning machine learning again (3 years in)
Daniel Bourke
13K views • 2 days ago
2 TEAMS! PERFECT!
NEW Apex Legends FUNNY & EPIC Moments #425
Apex Legends Funny Moments - Gaming Cur...
43K views • 16 hours ago
Web Developer Salaries are UP in 2020!
Stefan Mischook
1.2K views • 3 hours ago
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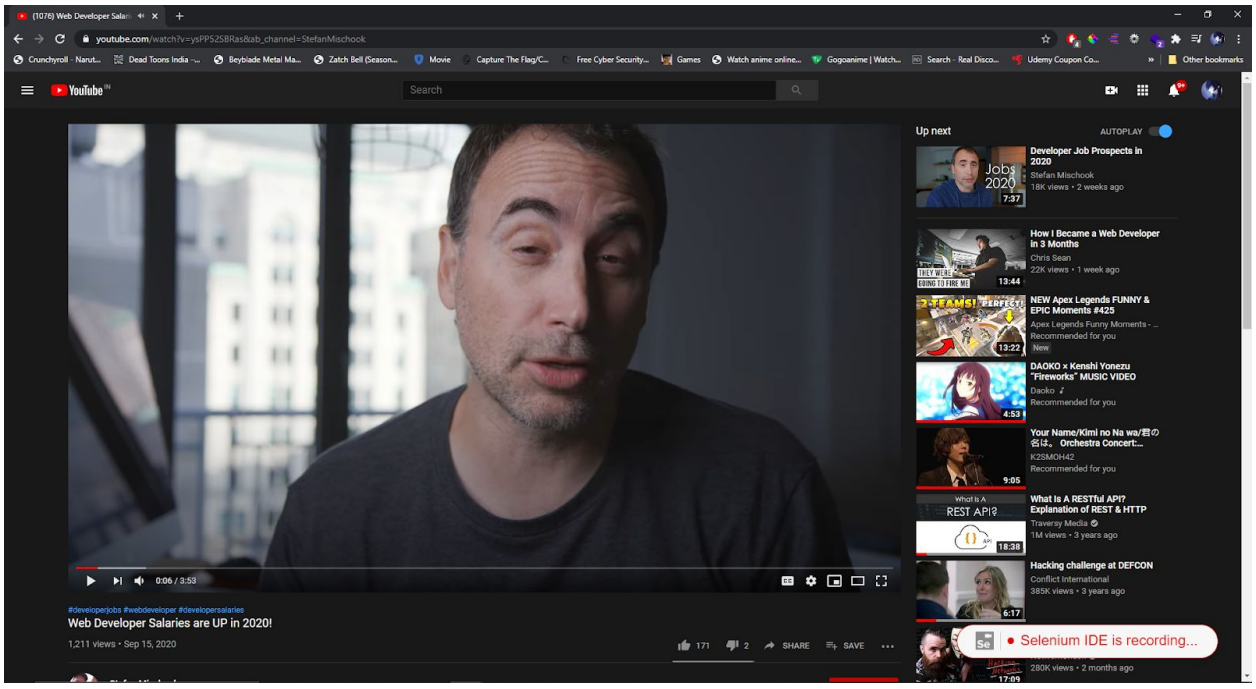
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Conflict International
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0:06 / 3:53
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Web Developer Salaries are UP in 2020!
1,211 views • Sep 15, 2020
171
2
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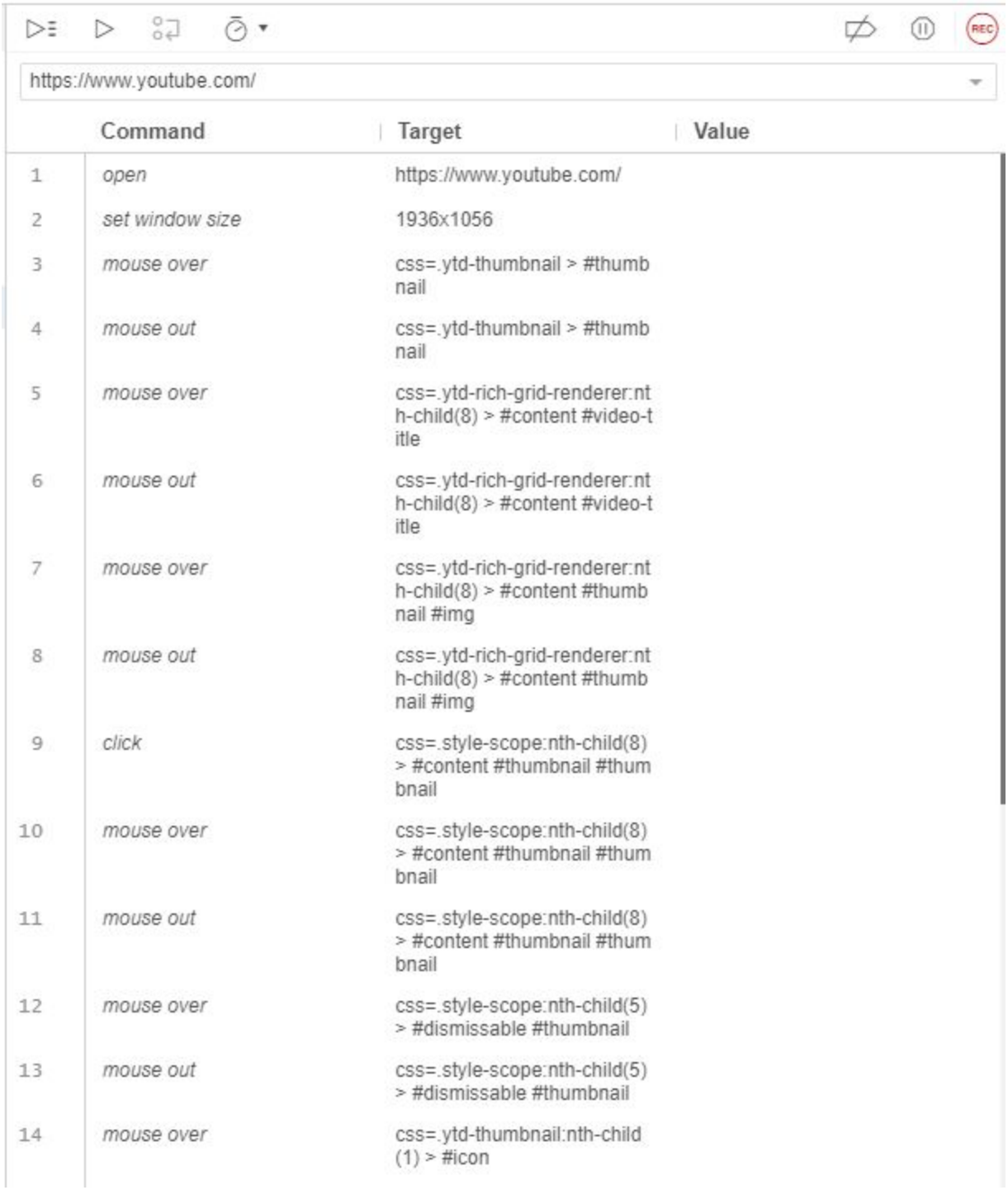


https://www.youtube.com/

	Command	Target	Value
1	*open*	https://www.youtube.com/	
2	*set window size*	1936x1056	
3	*mouse over*	css=.ytd-thumbnail > #thumbnail	
4	*mouse out*	css=.ytd-thumbnail > #thumbnail	
5	*mouse over*	css=.ytd-rich-grid-renderer:nth-child(8) > #content #video-title	
6	*mouse out*	css=.ytd-rich-grid-renderer:nth-child(8) > #content #video-title	
7	*mouse over*	css=.ytd-rich-grid-renderer:nth-child(8) > #content #thumbnail #img	
8	*mouse out*	css=.ytd-rich-grid-renderer:nth-child(8) > #content #thumbnail #img	
9	*click*	css=.style-scope:nth-child(8) > #content #thumbnail #thumbnail	
10	*mouse over*	css=.style-scope:nth-child(8) > #content #thumbnail #thumbnail	
11	*mouse out*	css=.style-scope:nth-child(8) > #content #thumbnail #thumbnail	
12	*mouse over*	css=.style-scope:nth-child(5) > #dismissable #thumbnail	
13	*mouse out*	css=.style-scope:nth-child(5) > #dismissable #thumbnail	
14	*mouse over*	css=.ytd-thumbnail:nth-child(1) > #icon	

15	*mouse out*	css=.ytd-thumbnail:nth-child (1) > #icon
16	*mouse over*	css=.ytd-thumbnail:nth-child (1) > #tooltip
17	*mouse out*	css=.ytd-thumbnail:nth-child (1) > #tooltip
18	*mouse over*	css=.ytd-thumbnail:nth-child (1) > #icon
19	*mouse out*	css=.ytd-thumbnail:nth-child (1) > #icon
20	*mouse over*	css=#hover-overlays > .style-scope:nth-child(1)
21	*mouse out*	css=#hover-overlays > .style-scope:nth-child(1)
22	*mouse over*	css=.style-scope:nth-child(4) > #dismissable #img
23	*mouse out*	css=.style-scope:nth-child(4) > #dismissable #img
24	*click*	css=.video-stream

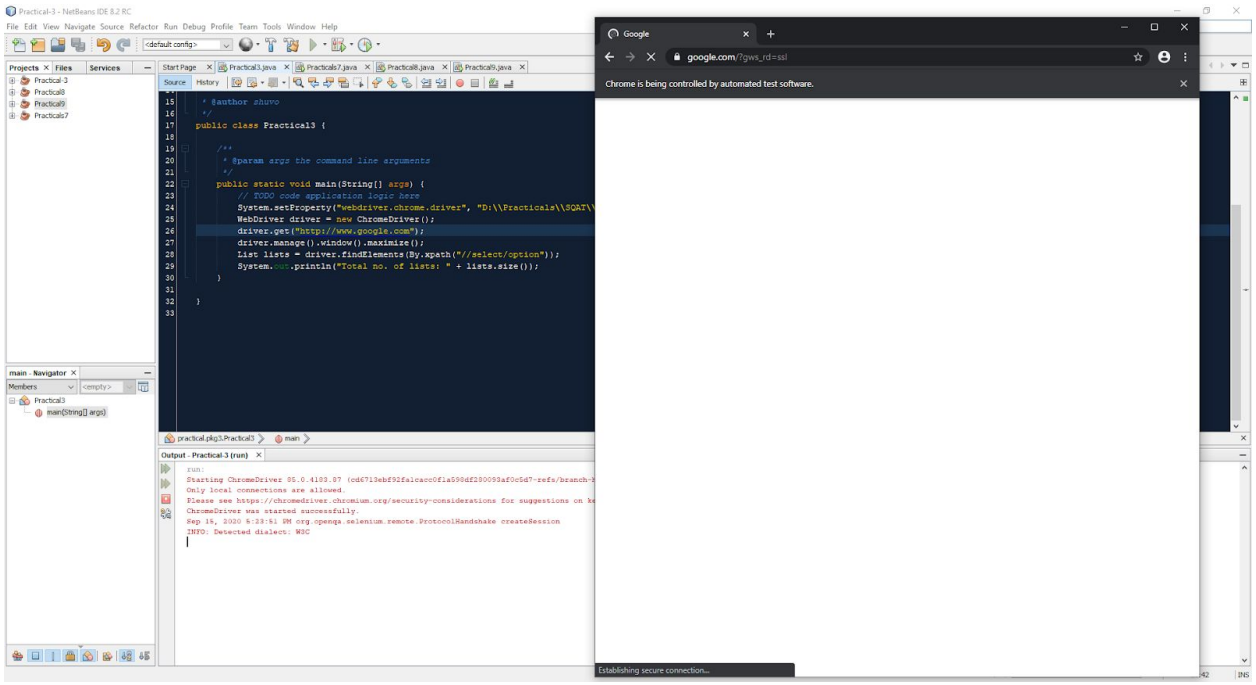
Practical-3

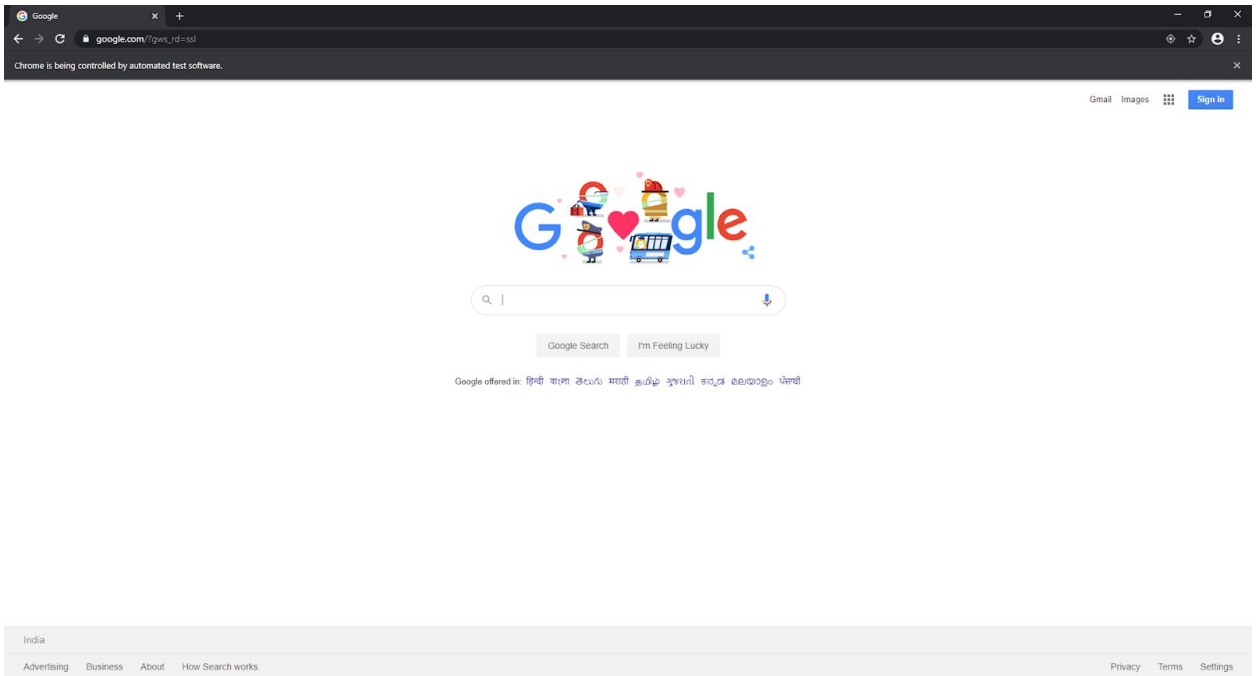
Aim: Install the Selenium server (Selenium RC) and demonstrate it using a script in Java/PHP.

Code:

```
package practical.pkg3;

import java.util.List;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeDriver;

/**
 *
 * @author shuvo
 */
public class Practical3 {

    /**
     * @param args the command line arguments
     */
    public static void main(String[] args) {
        // TODO code application logic here
        System.setProperty("webdriver.chrome.driver",
"D:\\Practicals\\SQAT\\chromedriver.exe");
        WebDriver driver = new ChromeDriver();
        driver.get("http://www.google.com");
        driver.manage().window().maximize();
        List lists =
driver.findElements(By.xpath("//select/option"));
        System.out.println("Total no. of lists: " + lists.size());
        driver.quit();
    }

}
```

Output:


Practical-3 - NetBeans IDE 8.2 RC
Google
google.com/?gws_rd=ssl
Chrome is being controlled by automated test software.
Establishing secure connection...
Output - Practical-3 (run)
Starting ChromeDriver 85.0.4183.87
Only local connections are allowed.
ChromeDriver was started successfully.
INFO: Detected dialect: W3C


Google
google.com/?gws_rd=ssl
Chrome is being controlled by automated test software.
Gmail
Images
Sign in
Google Search
I'm Feeling Lucky
Google offered in: हिन्दी বাংলা తెలుగు मराठी தமிழ் ગુજરાતી ಕನ್ನಡ മലയാളം ਪੰਜਾਬੀ
India
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Settings

Practical-4

Aim: Write and test a program to login a specific web page.

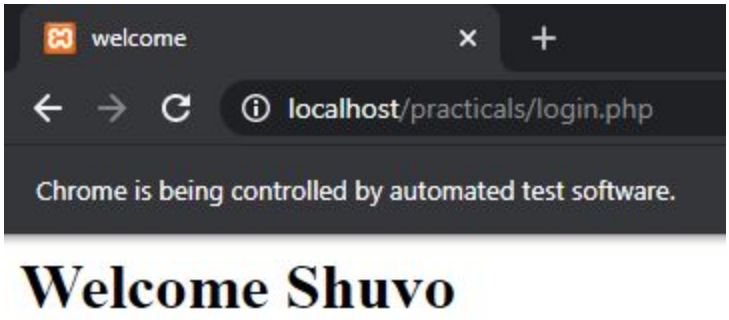
PHP Code:

```
<?php
    if(isset($_POST['login'])){
        $user = $_POST['user'];
        $pass = $_POST['pass'];
        if($user=="shuvo" && $pass=="1234"){
            echo "<h1>Welcome Shuvo</h1>";
        }
        else{
            echo "<h1>Invalid username or password</h1>";
        }
    }
?>
<html>
    <body><br><br>
        <form method="POST">
            <input placeholder="Enter Username" type="text"
name="user" id="user"/><br>
            <input placeholder="Enter Password" type="password"
name="pass" id="pass"/><br>
            <button name="login" id=”login”
type="submit">Login</button>
        </form>
    </body>
</html>
```

Java Code:

```
package prcatical.pkg4;

import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeDriver;

/**
 *
 * @author shuvo
 */
public class Prcatical4 {

    /**
     * @param args the command line arguments
     */
    public static void main(String[] args) {
        // TODO code application logic here
        System.setProperty("webdriver.chrome.driver",
"D:\\Practicals\\SQAT\\chromedriver.exe");
        WebDriver driver = new ChromeDriver();
        driver.get("http://localhost/practicals/login.php");
        driver.manage().window().maximize();
        driver.findElement(By.id("user")).sendKeys("shuvo");
        driver.findElement(By.id("pass")).sendKeys("1234");
        driver.findElement(By.id("login")).click();

        if(driver.getTitle().contains("welcome")){
            System.out.print("Login Successful!");
        }
        else{
            System.out.print("Login Failed!");
        }
    }
}
```

Output:



Welcome Shuvo

shuvo
••••
Login

```
Output - Prcatical 4 (run)
run:
Starting ChromeDriver 85.0.4183.87 (cd6713ebf92falcacc0f1a598df280093af
Only local connections are allowed.
Please see https://chromedriver.chromium.org/security-considerations fo
ChromeDriver was started successfully.
Oct 11, 2020 11:21:20 AM org.openqa.selenium.remote.ProtocolHandshake c
INFO: Detected dialect: W3C
Login Successful!BUILD SUCCESSFUL (total time: 18 seconds)
```

Practical-5

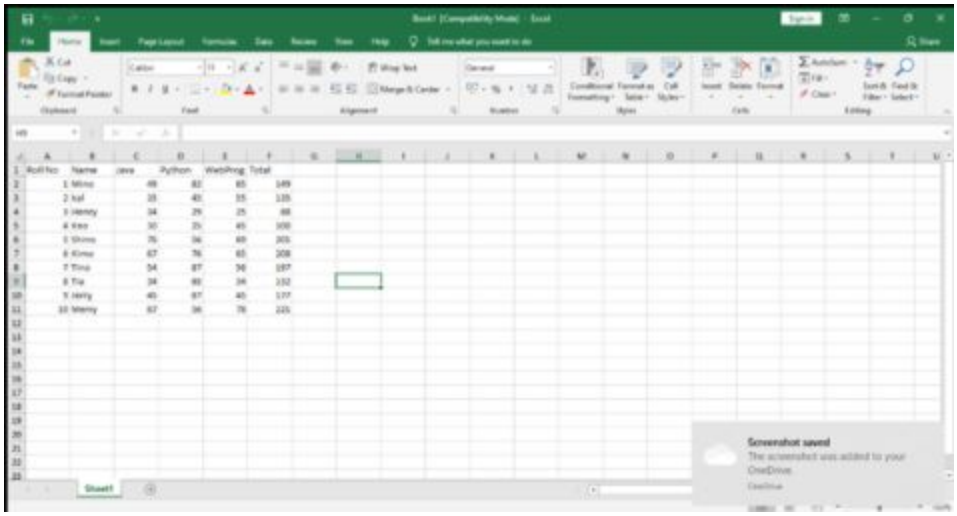
Aim: Write and Test a program to update 10 student record excel sheets.

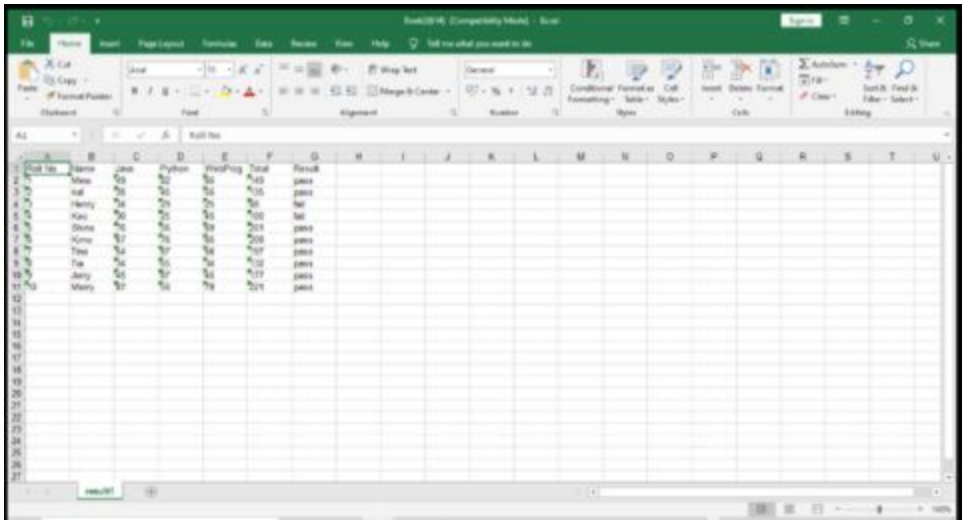
Code:

```
package sepract5;
import java.io.FileInputStream;
import java.io.FileOutputStream;
import jxl.Sheet;
import jxl.Workbook;
import jxl.write.Label;
import jxl.write.WritableSheet;
import jxl.write.WritableWorkbook;

/**
 *
 * @author shuvo
 */
public class SEPract5 {
private static Object WorkBook;

/**
 * @param args the command line arguments
 */
public static void main(String[] args)throws Exception{
     // TODO code application logic here
   FileInputStream fi = new
FileInputStream("D:\\pracs\\STQA\\Book1.xls");
   Workbook w=Workbook.getWorkbook(fi);
   Sheet s=w.getSheet(0);
   String a[][]=new String[s.getRows()][s.getColumns()];
   FileOutputStream to=new
FileOutputStream("D:\\pracs\\STQA\\Book2(646).xls");
   WritableWorkbook wwb=Workbook.createWorkbook(to);
```

```
   WritableSheet ws=wwb.createSheet("result1", 0);
   for(int i=0; i<s.getRows();i++){
     for(int j=0;j<s.getColumns();j++){
     a[i][j]=s.getCell(j,i).getContents();
     Label l=new Label(j, i, a[i][j]);
        ws.addCell(l);
}
   }
   Label l=new Label(6,0,"Result");
   ws.addCell(l);
   for(int i=1;i<s.getRows();i++){
     for(int j=5;j<s.getColumns();j++){
     a[i][j]=s.getCell(j,i).getContents();
     int x=Integer.parseInt(a[i][j]);
     if(x/3>=35)
     {
          Label l1=new Label(6,i,"pass");
                ws.addCell(l1);
     }
          else{
          Label l1=new Label(6,i,"fail");
                ws.addCell(l1);
          break;
     }
     }
   }
   wwb.write();
   wwb.close();

}
}
```

Output:





Practical-6

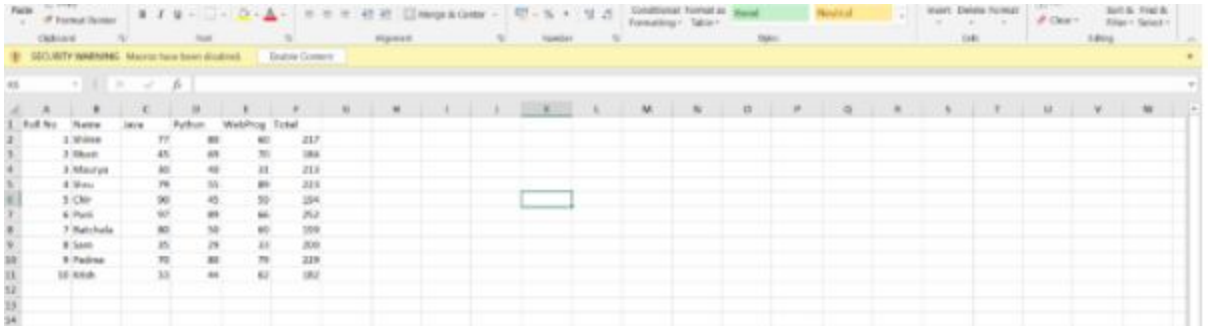
Aim: Write and test a program to select the no. of students who have scored more than 60 in anyone subject.

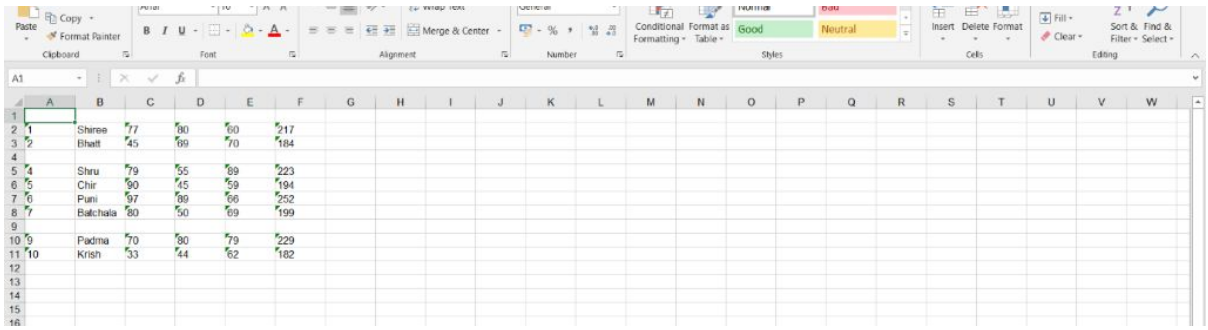
Code:

```
package staqpract6;
import java.io.FileInputStream;
import java.io.FileNotFoundException;
import java.io.FileOutputStream;
import java.io.IOException;
import jxl.Sheet;
import jxl.Workbook;
import jxl.read.biff.BiffException;
import jxl.write.Label;
import jxl.write.WritableSheet;
import jxl.write.WritableWorkbook;
import jxl.write.WriteException;

/**
 *
 * @author shuvo
 */
public class Staqpract6 {


     /**
     * @param args the command line arguments
     */
     public static void main(String[] args) throws Exception{
        FileInputStream fi = new
FileInputStream("D:\\pracs\\STQA\\Book1(AutoRecovered).xls");
     Workbook w = Workbook.getWorkbook(fi);
     Sheet s = w.getSheet(0);
     String a[][]= new String[s.getRows()][s.getColumns()];
```

```
        FileOutputStream fo = new
FileOutputStream("D:\\pracs\\STQA\\Book2(AutoRecovered).xls");
        WritableWorkbook wwb = Workbook.createWorkbook(fo);
        WritableSheet ws = wwb.createSheet("result1", 0);
        System.out.println();
     for (int i=0; i<s.getRows(); i++){
          String temp[] = new String[s.getColumns()];
            boolean flag = false;
            for(int j=0; j<s.getColumns(); j++){
               temp[j] = s.getCell(j,i).getContents();
                if(i >= 1 && j>=2 && j<=4){
                    if(Integer.parseInt(temp[j]) >= 60){
                         flag = true;
                    }
                }
          }
          if(flag){
                for(int k=0; k<temp.length;k++){
                    Label l2 = new Label(k,i,temp[k]);
                    ws.addCell(l2);
                }
          }
     }
        wwb.write();
        wwb.close();
     }

}
```

Output:





	A	B	C	D	E	F
1						
2	1	Shiree	77	80	60	217
3	2	Bhatt	45	89	70	184
4						
5	4	Shru	79	55	89	223
6	5	Chir	90	45	59	194
7	6	Puni	97	89	66	252
8	7	Batchala	80	50	69	199
9						
10	9	Padma	70	80	79	229
11	10	Krish	33	44	62	182
12						
13						
14						
15						
16						

Practical-7

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

Code:

```
package practicals7;

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;
/**
 *
 * @author shuvo
 */
public class Practicals7 {

    /**
     * @param args the command line arguments
     */
    public static void main(String[] args) {
        // TODO code application logic here
        System.setProperty("webdriver.chrome.driver",
"D:\\Practicals\\SQAT\\chromedriver.exe");
        WebDriver driver = new ChromeDriver();
        driver.get("http://www.google.com");
        driver.manage().window().maximize();
        List<WebElement> links =
driver.findElements(By.tagName("a"));
        List<WebElement> buttons =
driver.findElements(By.tagName("button"));
        List<WebElement> fields =
driver.findElements(By.tagName("input"));
```

```
        System.out.println("Total No. of links = " +
links.size());
        System.out.println("Total No. of buttons = " +
buttons.size());
        System.out.println("Total No. of fields = " +
fields.size());
        driver.quit();
    }

}
```

Output:

```
run:
Starting ChromeDriver 85.0.4183.87 (cd6713ebf92falcacc0fla598df280093af0c5d7-refs/branch-heads/4183@{#1689}) on port 20713
Only local connections are allowed.
Please see https://chromedriver.chromium.org/security-considerations for suggestions on keeping ChromeDriver safe.
ChromeDriver was started successfully.
Sep 15, 2020 5:33:11 PM org.openqa.selenium.remote.ProtocolHandshake createSession
INFO: Detected dialect: W3C
Total No. of links = 29
Total No. of buttons = 1
Total No. of fields = 13
BUILD SUCCESSFUL (total time: 20 seconds)
```

Practical-8

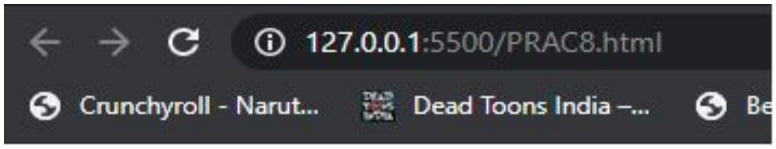
Aim: Write and test a program to get the number of items in a list/combo box.

Code:

```
package practical8;

import java.util.List;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeDriver;

/**
 *
 * @author shuvo
 */
public class Practical8 {

    /**
     * @param args the command line arguments
     */
    public static void main(String[] args) {
        // TODO code application logic here
        System.setProperty("webdriver.chrome.driver",
"D:\\Practicals\\SQAT\\chromedriver.exe");
        WebDriver driver = new ChromeDriver();
        driver.get("http://127.0.0.1:5500/PRAC8.html");
        driver.manage().window().maximize();
        List lists =
driver.findElements(By.xpath("//select/option"));
        List lists1 = driver.findElements(By.xpath("//ul/li"));
        System.out.println("Total no. of Wifus: " +
lists1.size());
```

```
        System.out.println("Total no. of Character: " +
lists.size());
        driver.quit();

    }

}
```

Output:



Prac8

Wifus

- Emilia
- Erza
- Megumi Tadokoro
- Lucy Heartfilia
- Rem
- Akame

Choose a Character: Shuvo

Submit

```
run:
Starting ChromeDriver 85.0.4183.87 (cd6713ebf
Only local connections are allowed.
Please see https://chromedriver.chromium.org/
ChromeDriver was started successfully.
Sep 15, 2020 9:09:48 PM org.openqa.selenium.r
INFO: Detected dialect: W3C
Total no. of Wifus: 6
Total no. of Character: 5
BUILD SUCCESSFUL (total time: 8 seconds)
```

Practical-9

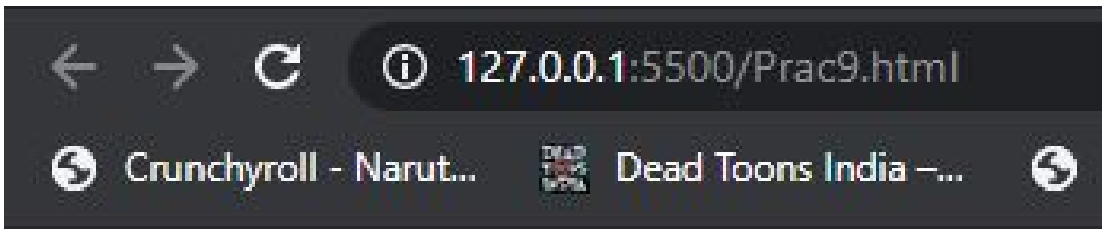
Aim: Write and test a program to count the number of checkboxes on the page checked and unchecked count.

Code:

```
package practical9;

import java.util.List;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;

/**
 *
 * @author shuvo
 */
public class Practical9 {

    /**
     * @param args the command line arguments
     */
    public static void main(String[] args) {
        // TODO code application logic here
        System.setProperty("webdriver.chrome.driver",
"D:\\Practicals\\SQAT\\chromedriver.exe");
        WebDriver driver = new
org.openqa.selenium.chrome.ChromeDriver();
        driver.get("http://127.0.0.1:5500/Prac9.html");
        driver.manage().window().maximize();
        List<WebElement> check =
driver.findElements(By.xpath("//input[@type='checkbox']"));
System.out.println("Total no of checkboxes : " + check.size());
        int checked_Count=0,unchecked_Count=0;
        for(int i=0;i<check.size();i++) {
            if(check.get(i).isSelected()){
                checked_Count++;
            }
```

```
            else{ unchecked_Count++; }
        }
        System.out.println("Number of selected checkboxes are : " +
checked_Count);
        System.out.println("Number of unselected checkboxes are : " +
unchecked_Count);
        driver.quit();
    }

}
```

Output:



Show Checkboxes

- [x] Bike
- [x] Car
- [ ] Boat
- [ ] Scooter
- [ ] Cycle
- [x] Jet
- [x] Train

```
run:
Starting ChromeDriver 85.0.4183.87 (cd6713ebf
Only local connections are allowed.
Please see https://chromedriver.chromium.org/
ChromeDriver was started successfully.
Sep 15, 2020 5:40:08 PM org.openqa.selenium.re
INFO: Detected dialect: W3C
Total no of checkboxes : 7
Number of selected checkboxes are : 4
Number of unselected checkboxes are : 3
BUILD SUCCESSFUL (total time: 10 seconds)
```