Mouse Actions in Selenium

This document records the mouse actions part of the final assessment.

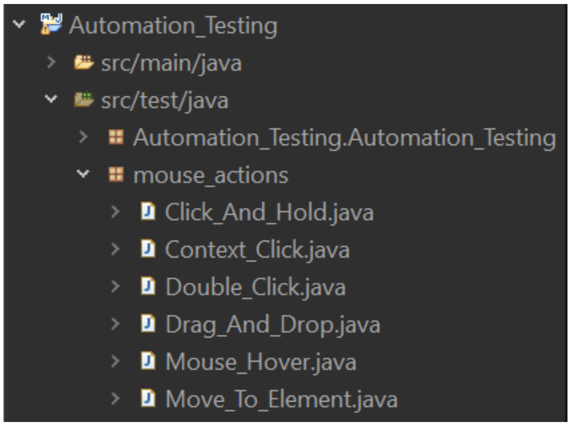
Question
Mouse actions - Find the web elements and perform below actions for examples which we discussed

a) Click
b) Hover
c) Drag & Drop

To test an application, one needs to perform several user actions on it. To perform any operations on the web application such as double-click, selecting drop-down boxes, etc. the actions class is required. So we will be implementing the different mouse actions using the actions class.

a) **Folder structure**

The below image depicts the folder structure for the mouse actions programs.
We have the Automation testing maven project -> src test java -> mouse actions package



```
Automation_Testing
  src/main/java
  src/test/java
    Automation_Testing.Automation_Testing
    mouse_actions
      Click_And_Hold.java
      Context_Click.java
      Double_Click.java
      Drag_And_Drop.java
      Mouse_Hover.java
      Move_To_Element.java
```

Click ()

The click functionality of the actions class contains three main user actions, they are

a) Click and hold () - Performs long click on the mouse without releasing it
b) Context click () - Performs right-click on the mouse on the web element
c) Double click () - Performs double click on the element

Click and hold ():

i) From line 1-7 we are importing the packages. Special attention to the Actions package imported in line 7.

ii) Line 12 and 13, we are doing the same commands for invoking the web driver of type chrome driver

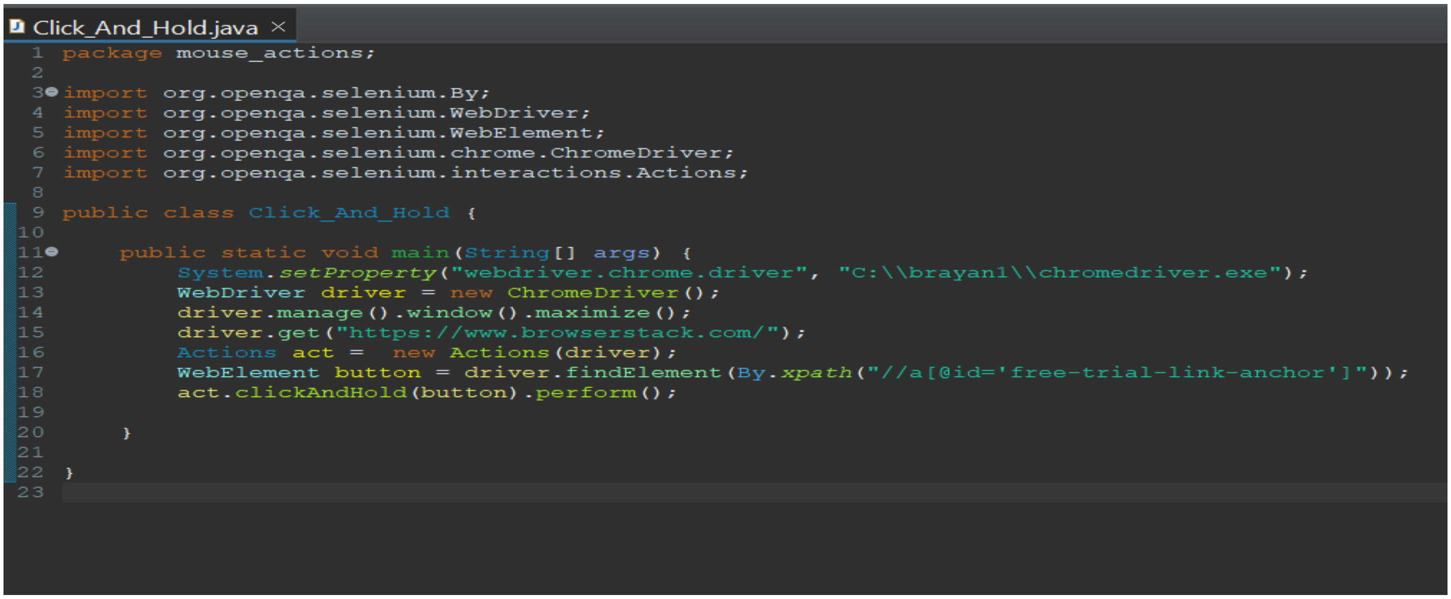
iii) Line 14, we are maximizing the window

iv) Here I have used another website named browser stack

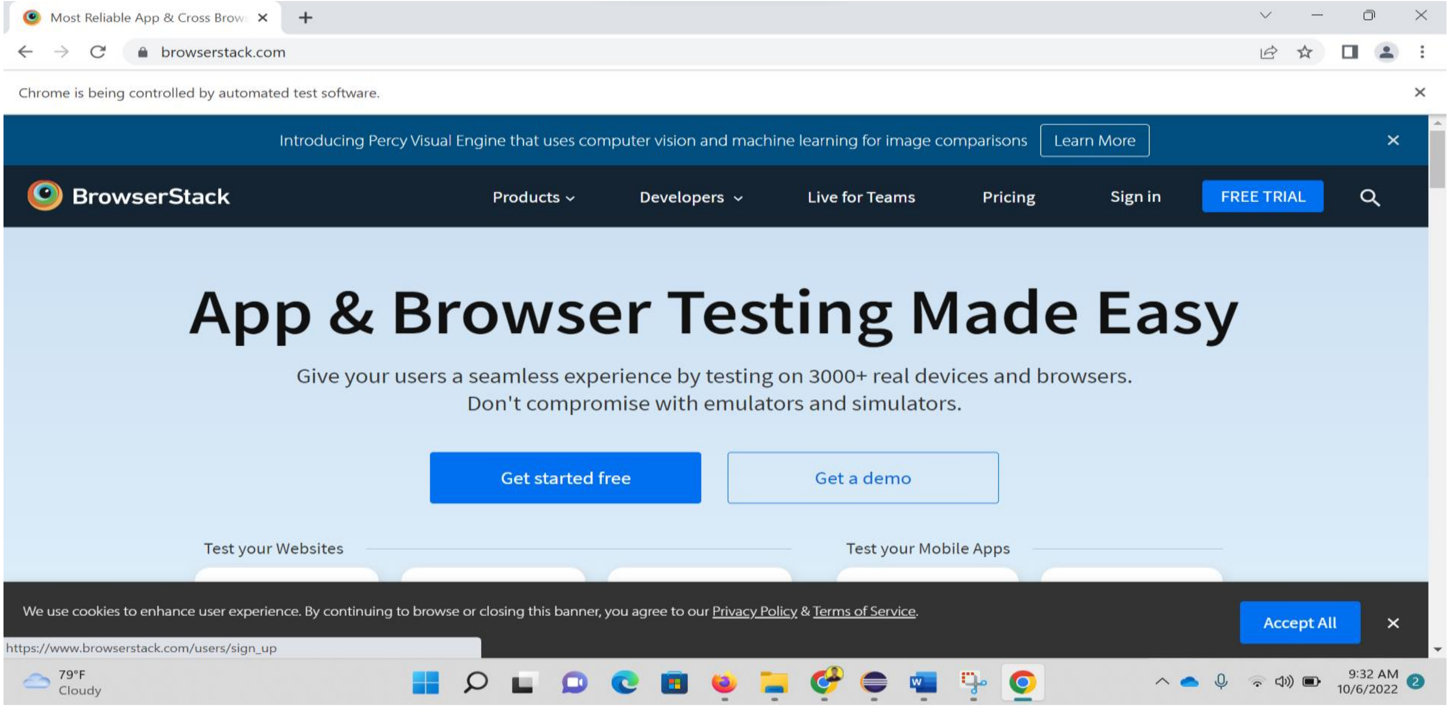
v) In line 16, we make a new object named act of class Actions

vi) In line 17, we make a container of type web element to store the web element which is the button of free trial at the right top corner.

vii) In line 18, we use the click and hold method on the button web element, to perform the long press



```
 1 package mouse_actions;
 2
 3 import org.openqa.selenium.By;
 4 import org.openqa.selenium.WebDriver;
 5 import org.openqa.selenium.WebElement;
 6 import org.openqa.selenium.chrome.ChromeDriver;
 7 import org.openqa.selenium.interactions.Actions;
 8
 9 public class Click_And_Hold {
10
11     public static void main(String[] args) {
12         System.setProperty("webdriver.chrome.driver", "C:\\brayan1\\chromedriver.exe");
13         WebDriver driver = new ChromeDriver();
14         driver.manage().window().maximize();
15         driver.get("https://www.browserstack.com/");
16         Actions act =  new Actions(driver);
17         WebElement button = driver.findElement(By.xpath("//a[@id='free-trial-link-anchor']"));
18         act.clickAndHold(button).perform();
19
20     }
21
22 }
23
```



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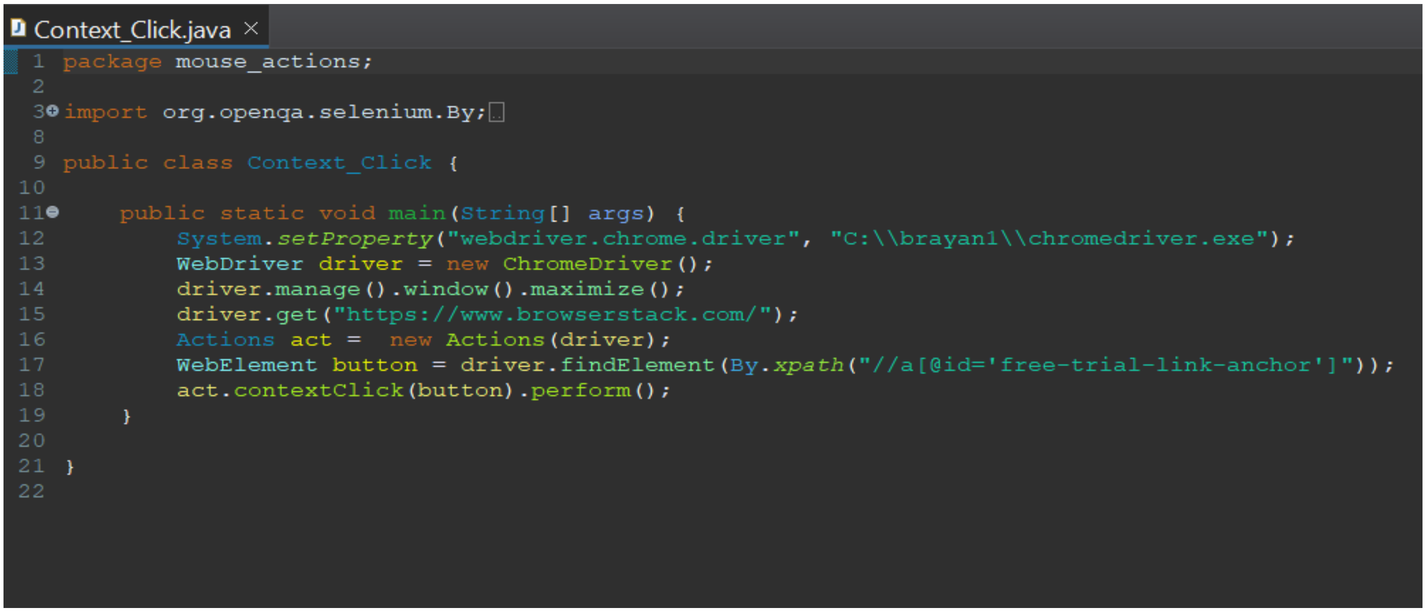
b) Context click ()

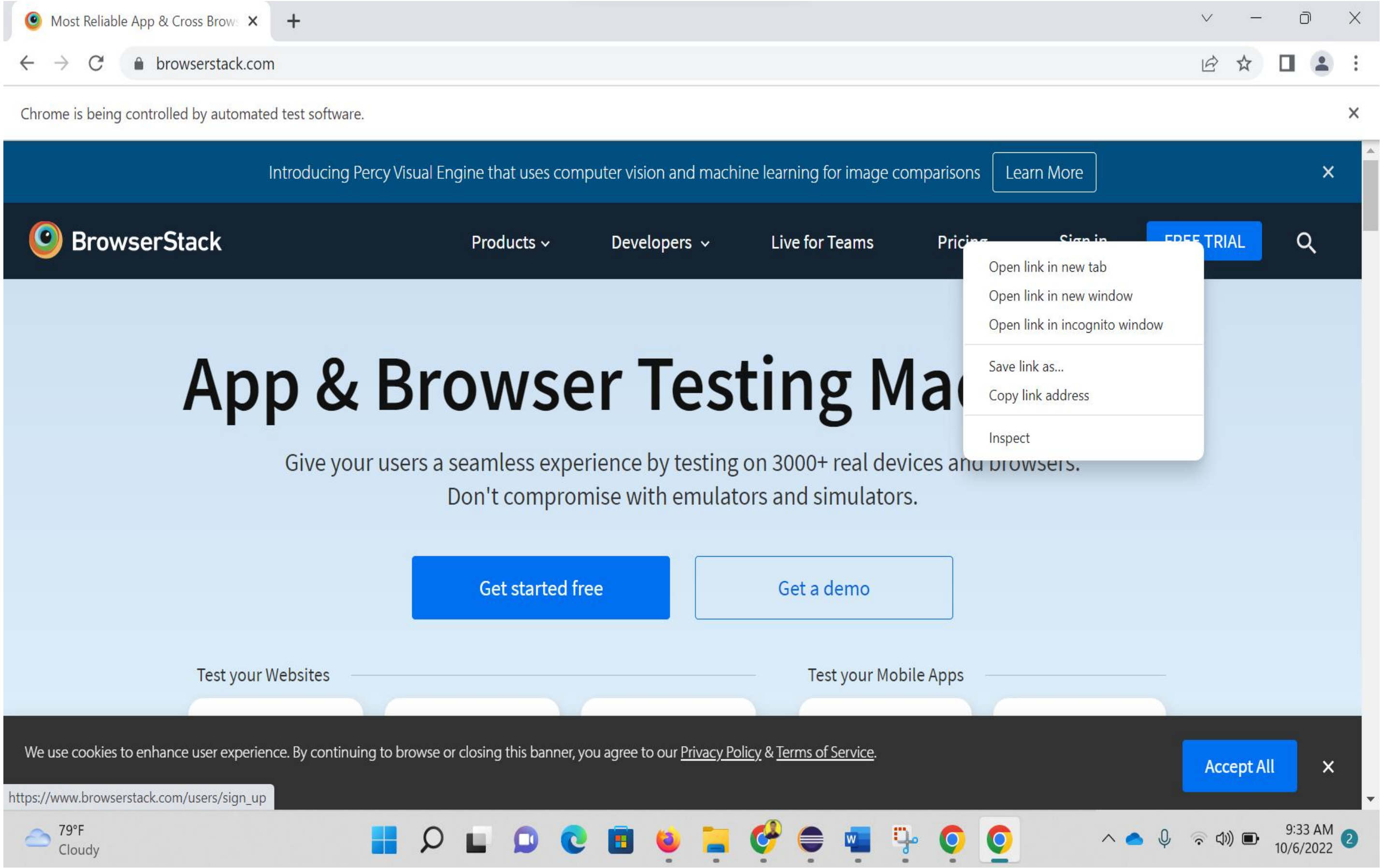
i) Here, the only change performed when compared to the last program is in line 18, where we perform the context click on the button present on the right top



Context_Click.java

```
 1 package mouse_actions;
 2
 3⊕import org.openqa.selenium.By;□
 8
 9 public class Context_Click {
10
11⊖    public static void main(String[] args) {
12         System.setProperty("webdriver.chrome.driver", "C:\\brayan1\\chromedriver.exe");
13         WebDriver driver = new ChromeDriver();
14         driver.manage().window().maximize();
15         driver.get("https://www.browserstack.com/");
16         Actions act =  new Actions(driver);
17         WebElement button = driver.findElement(By.xpath("//a[@id='free-trial-link-anchor']"));
18         act.contextClick(button).perform();
19     }
20
21 }
22
```

Automation output



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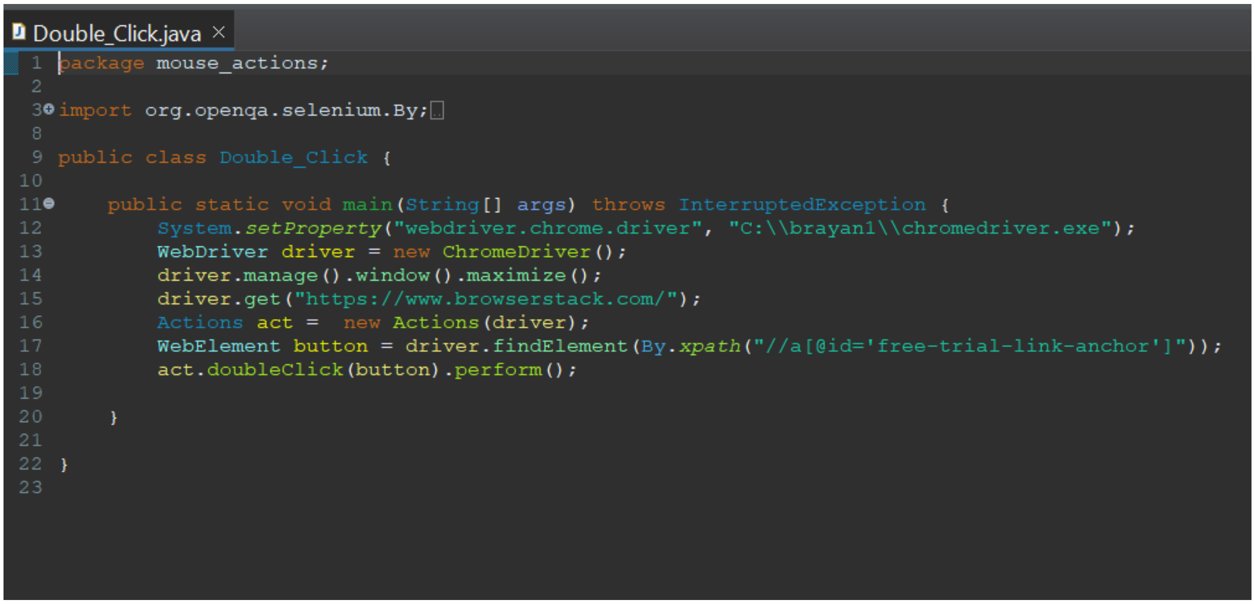
Double click ():

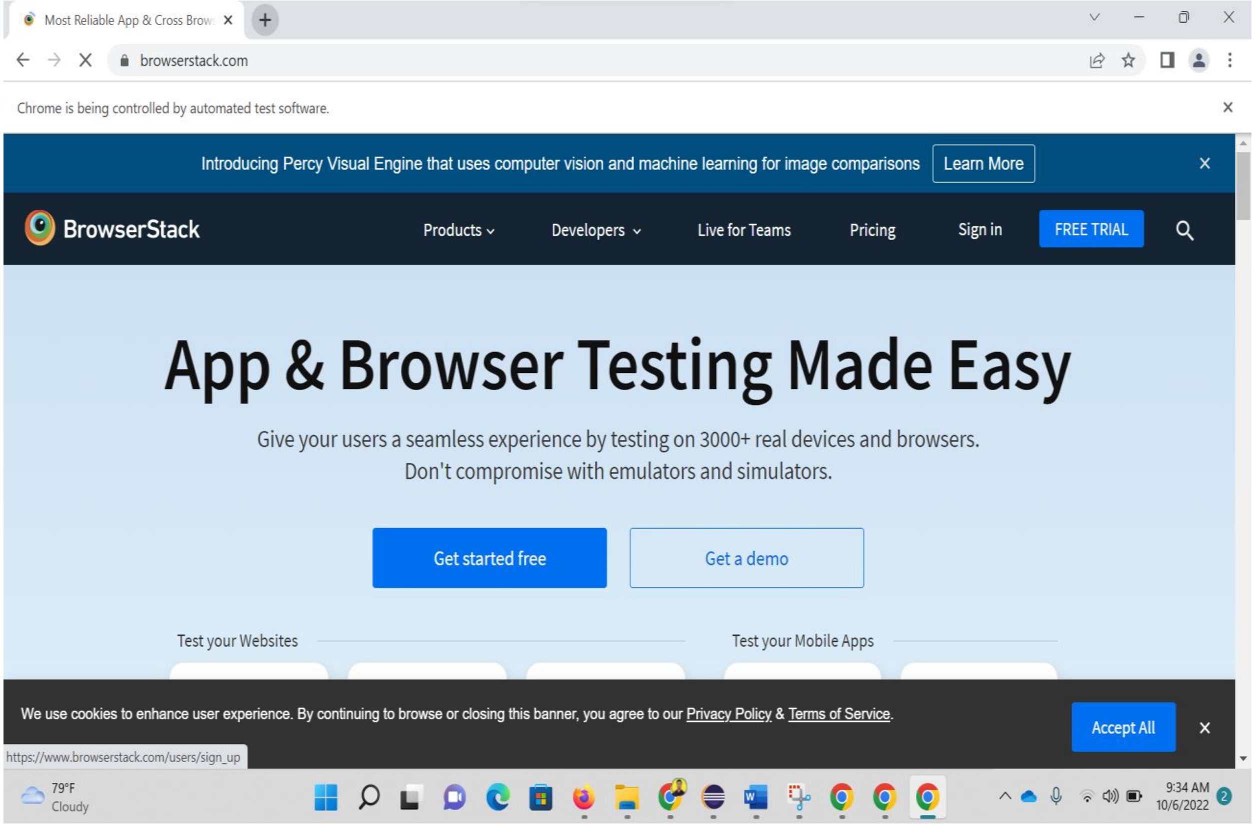
i) Here, the only change performed when compared to the last program is in line 18, where we perform the double click on the button present on the right top corner.



```
 1 package mouse_actions;
 2 
 3⊕import org.openqa.selenium.By;□
 8 
 9 public class Double_Click {
10 
11⊖    public static void main(String[] args) throws InterruptedException {
12        System.setProperty("webdriver.chrome.driver", "C:\\brayan1\\chromedriver.exe");
13        WebDriver driver = new ChromeDriver();
14        driver.manage().window().maximize();
15        driver.get("https://www.browserstack.com/");
16        Actions act =  new Actions(driver);
17        WebElement button = driver.findElement(By.xpath("//a[@id='free-trial-link-anchor']"));
18        act.doubleClick(button).perform();
19 
20    }
21 
22 }
23 
```

Automation output

The top right button, free trial is double clicked this leads to the login site being navigated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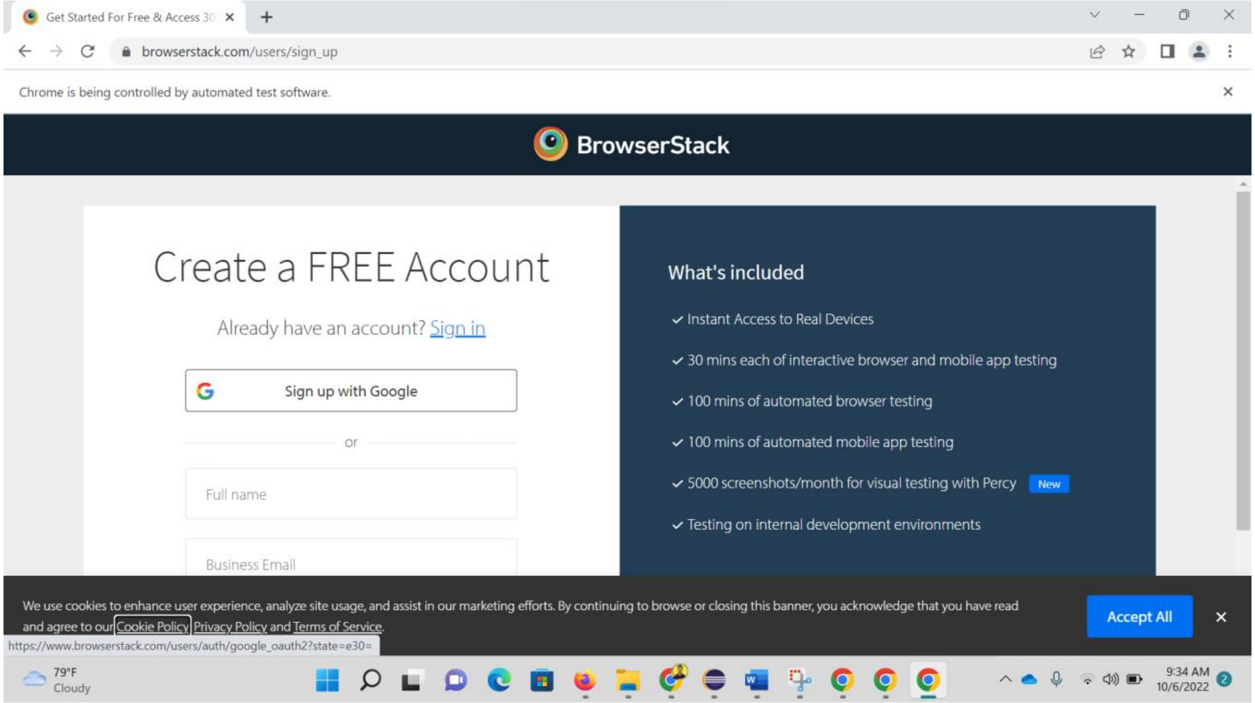

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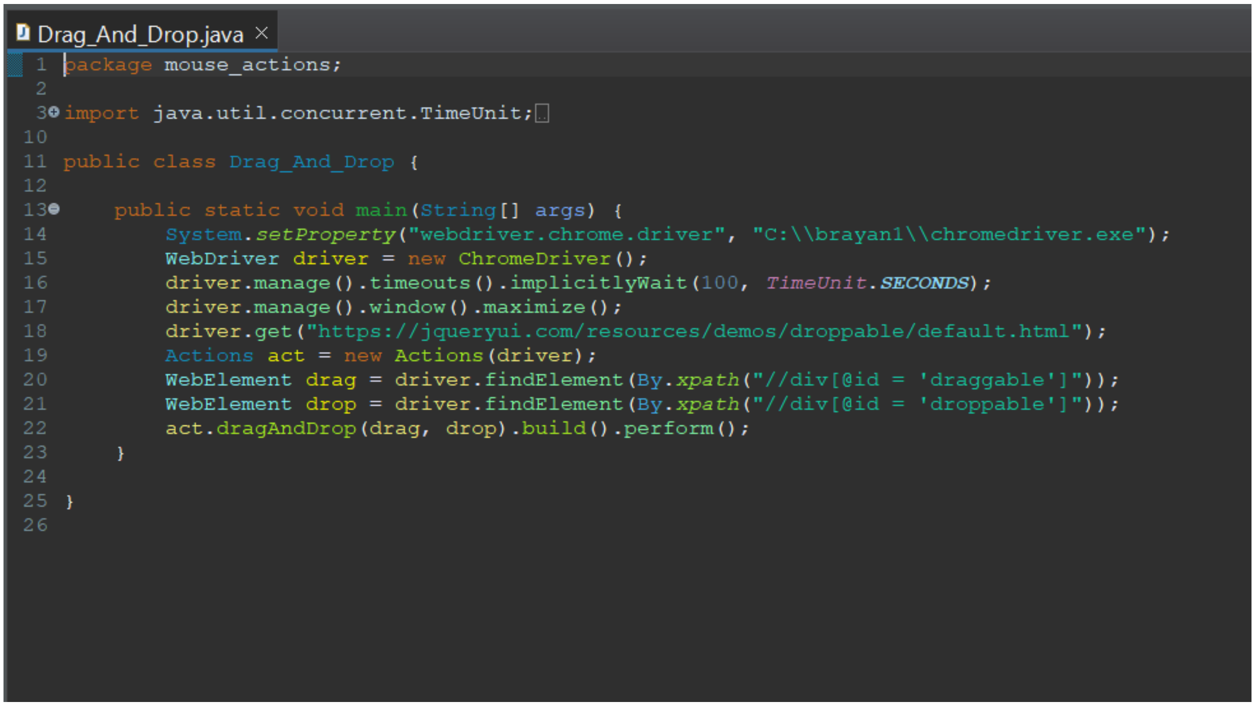
Drag and drop (): This method is used to drag and element and drop it in the target element

i) In line 19, we have instantiated the actions class with the object name act

ii) Line 20 and 21, we are saving two elements in the web element container named drag and drop. The drag element needs to be dragged and dropped on the drop element

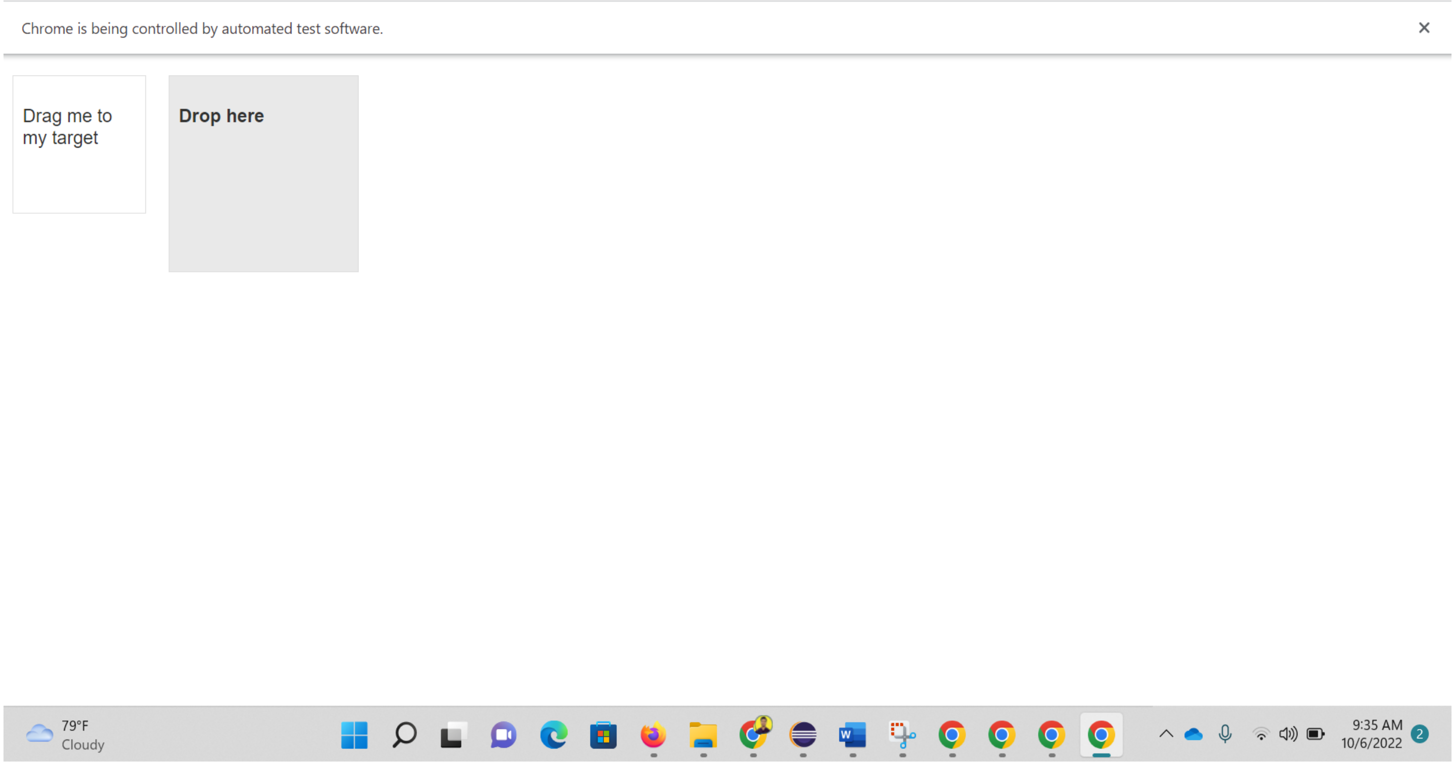
iii) Line 22 uses the drag and drop method which takes two arguments that are the target and destination element. We finally use the perform method to perform this user action.



Drag_And_Drop.java

```
 1 package mouse_actions;
 2 
 3⊕import java.util.concurrent.TimeUnit;
10 
11 public class Drag_And_Drop {
12 
13⊖    public static void main(String[] args) {
14        System.setProperty("webdriver.chrome.driver", "C:\\brayan1\\chromedriver.exe");
15        WebDriver driver = new ChromeDriver();
16        driver.manage().timeouts().implicitlyWait(100, TimeUnit.SECONDS);
17        driver.manage().window().maximize();
18        driver.get("https://jqueryui.com/resources/demos/droppable/default.html");
19        Actions act = new Actions(driver);
20        WebElement drag = driver.findElement(By.xpath("//div[@id = 'draggable']"));
21        WebElement drop = driver.findElement(By.xpath("//div[@id = 'droppable']"));
22        act.dragAndDrop(drag, drop).build().perform();
23    }
24 
25 }
26 
```

Automation output



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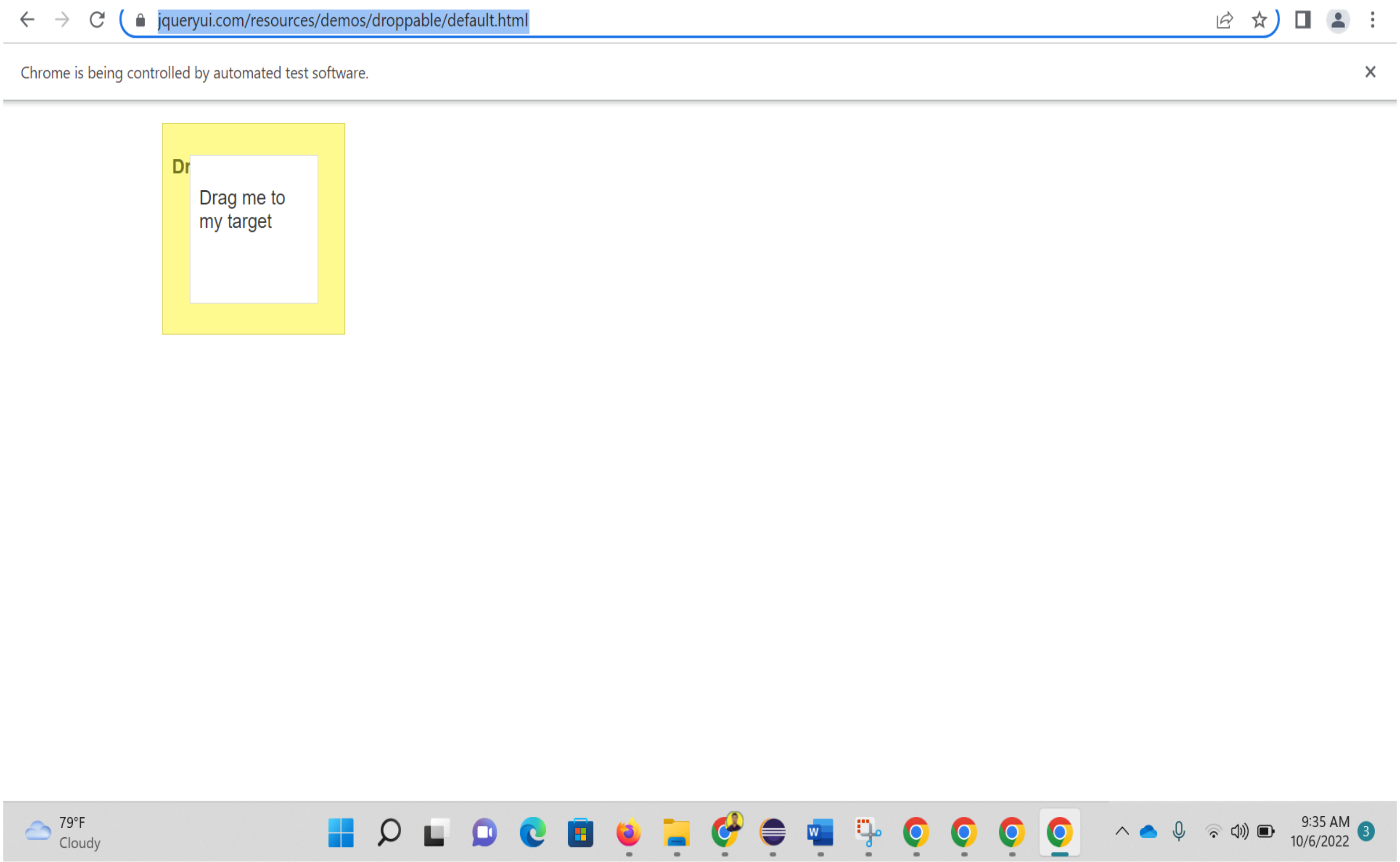
Drag me to my target

Drop here



jqueryui.com/resources/demos/droppable/default.html

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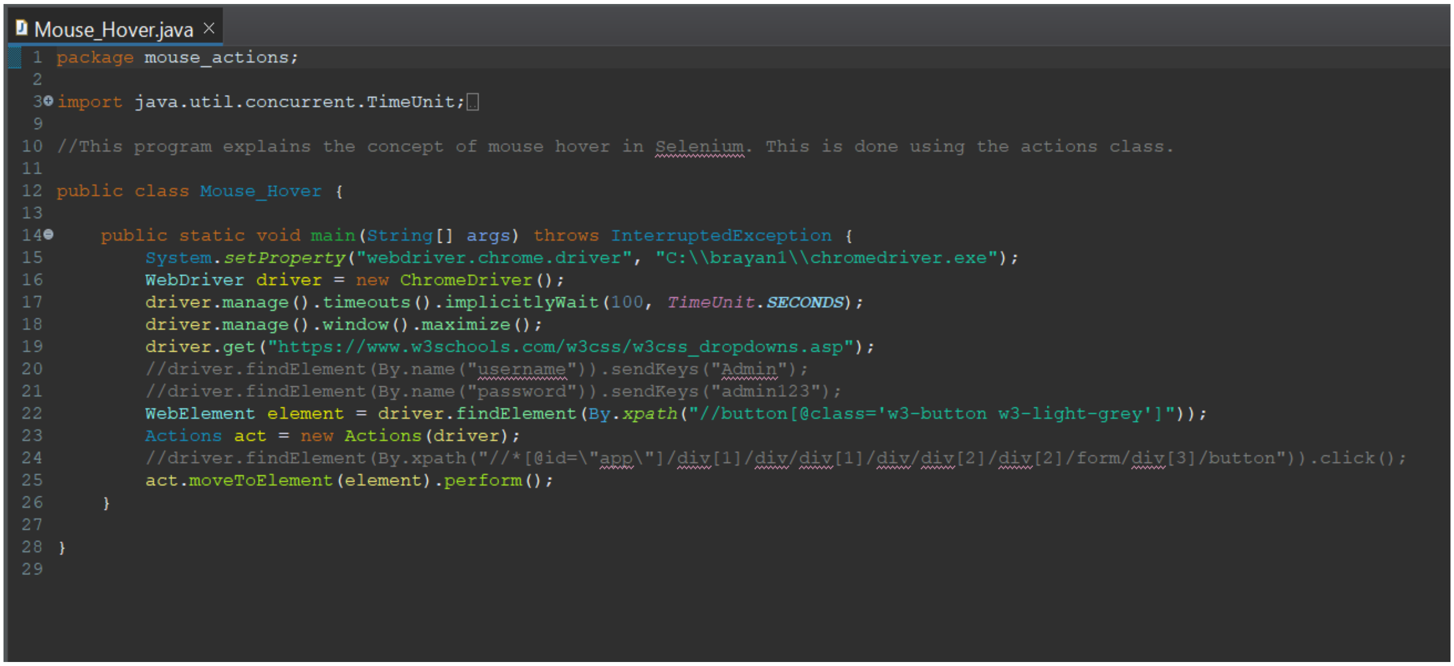
Dr

Drag me to my target

Mouse hover (): Hovering is a fundamental digital action that involves placing the mouse cursor on the target link or button. Users mainly use the mouse hover action to access sub-menu items. This hover method enables users to do this.

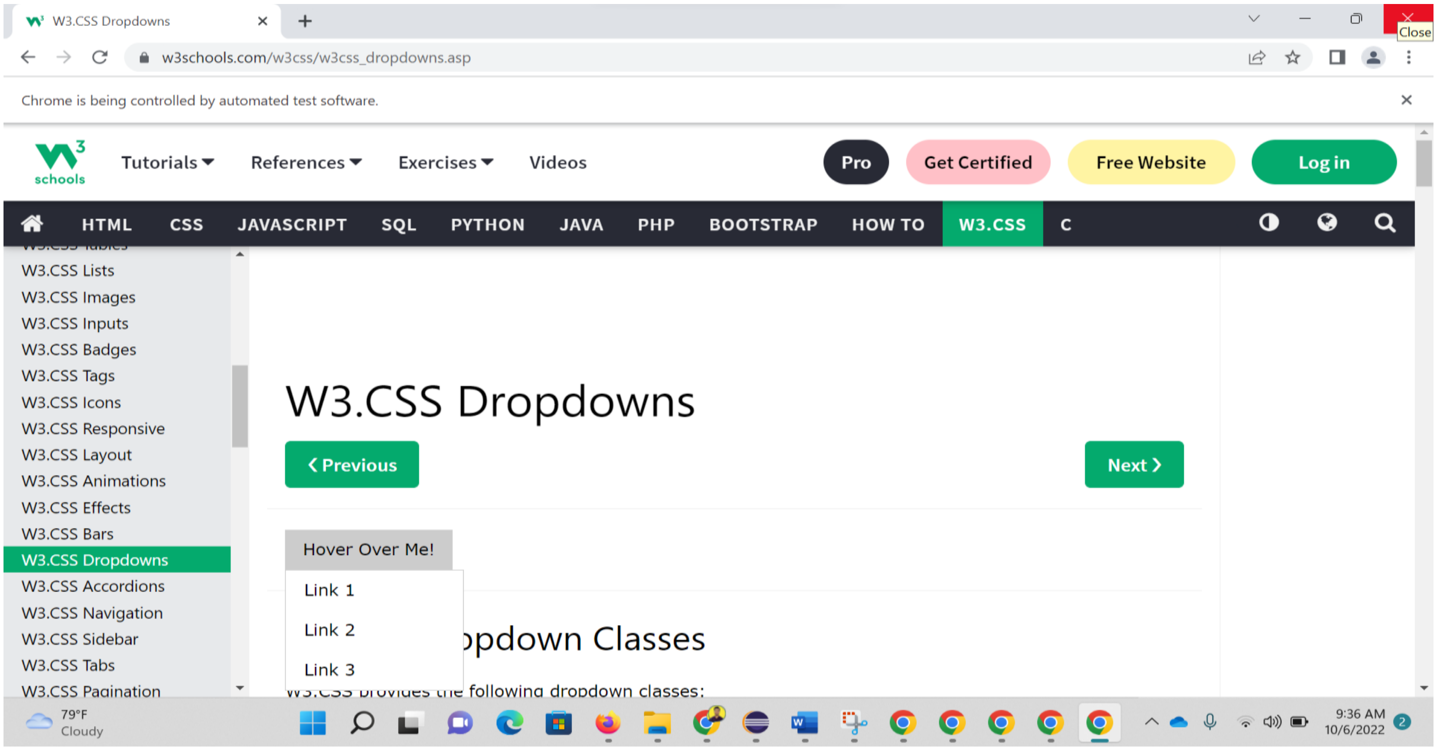
i) In line 19, we are visiting the w3schools website that has a hover me button, which displays a drop down when this button is hovered upon

ii) In line 25, we use the move to element method to move the cursor to the center of the element and hover over it.



```java
 1 package mouse_actions;
 2 
 3 import java.util.concurrent.TimeUnit;
 9 
10 //This program explains the concept of mouse hover in Selenium. This is done using the actions class.
11 
12 public class Mouse_Hover {
13 
14     public static void main(String[] args) throws InterruptedException {
15         System.setProperty("webdriver.chrome.driver", "C:\\brayan1\\chromedriver.exe");
16         WebDriver driver = new ChromeDriver();
17         driver.manage().timeouts().implicitlyWait(100, TimeUnit.SECONDS);
18         driver.manage().window().maximize();
19         driver.get("https://www.w3schools.com/w3css/w3css_dropdowns.asp");
20         //driver.findElement(By.name("username")).sendKeys("Admin");
21         //driver.findElement(By.name("password")).sendKeys("admin123");
22         WebElement element = driver.findElement(By.xpath("//button[@class='w3-button w3-light-grey']"));
23         Actions act = new Actions(driver);
24         //driver.findElement(By.xpath("//*[@id=\"app\"]/div[1]/div/div[1]/div/div[2]/div[2]/form/div[3]/button")).click();
25         act.moveToElement(element).perform();
26     }
27 
28 }
29 
```

Automation output



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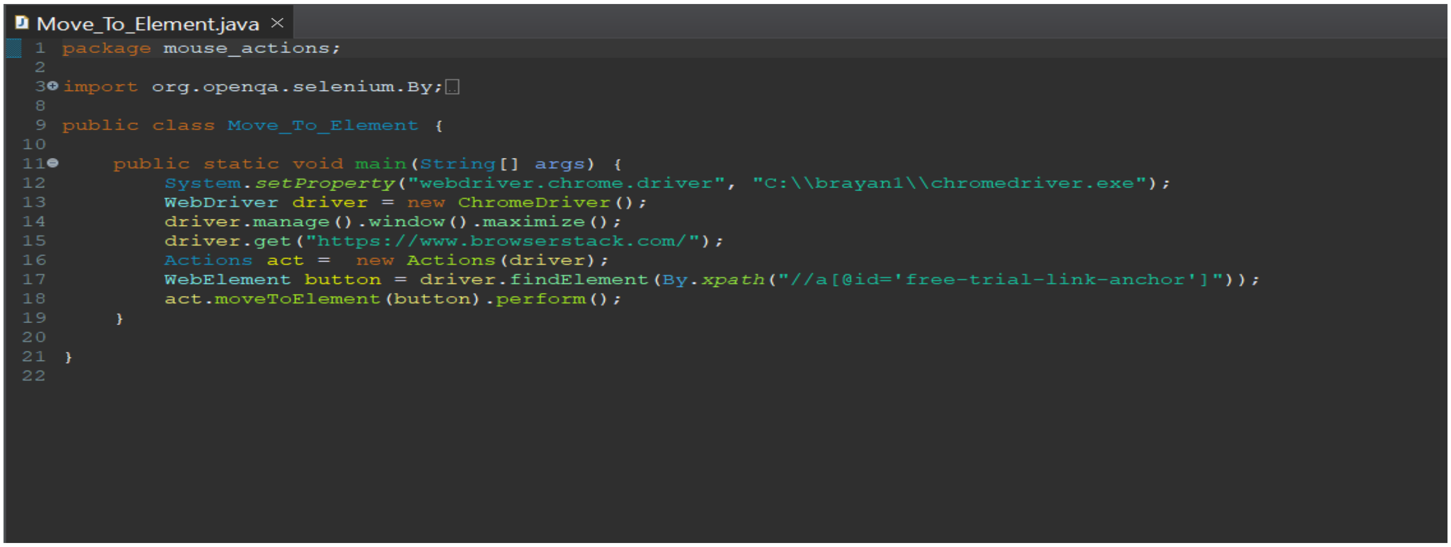
W3.CSS Dropdowns

...opdown Classes

W3.CSS provides the following dropdown classes:

Move to element (): This method helps to bring the cursor to the center of the element. This is also used to drag and drop elements.

i) This method is like the last program. Here we use move to element method to move the cursor to the center of the free trial button on the top right corner.



```java
package mouse_actions;

import org.openqa.selenium.By;

public class Move_To_Element {

    public static void main(String[] args) {
        System.setProperty("webdriver.chrome.driver", "C:\\brayan1\\chromedriver.exe");
        WebDriver driver = new ChromeDriver();
        driver.manage().window().maximize();
        driver.get("https://www.browserstack.com/");
        Actions act =  new Actions(driver);
        WebElement button = driver.findElement(By.xpath("//a[@id='free-trial-link-anchor']"));
        act.moveToElement(button).perform();
    }

}
```

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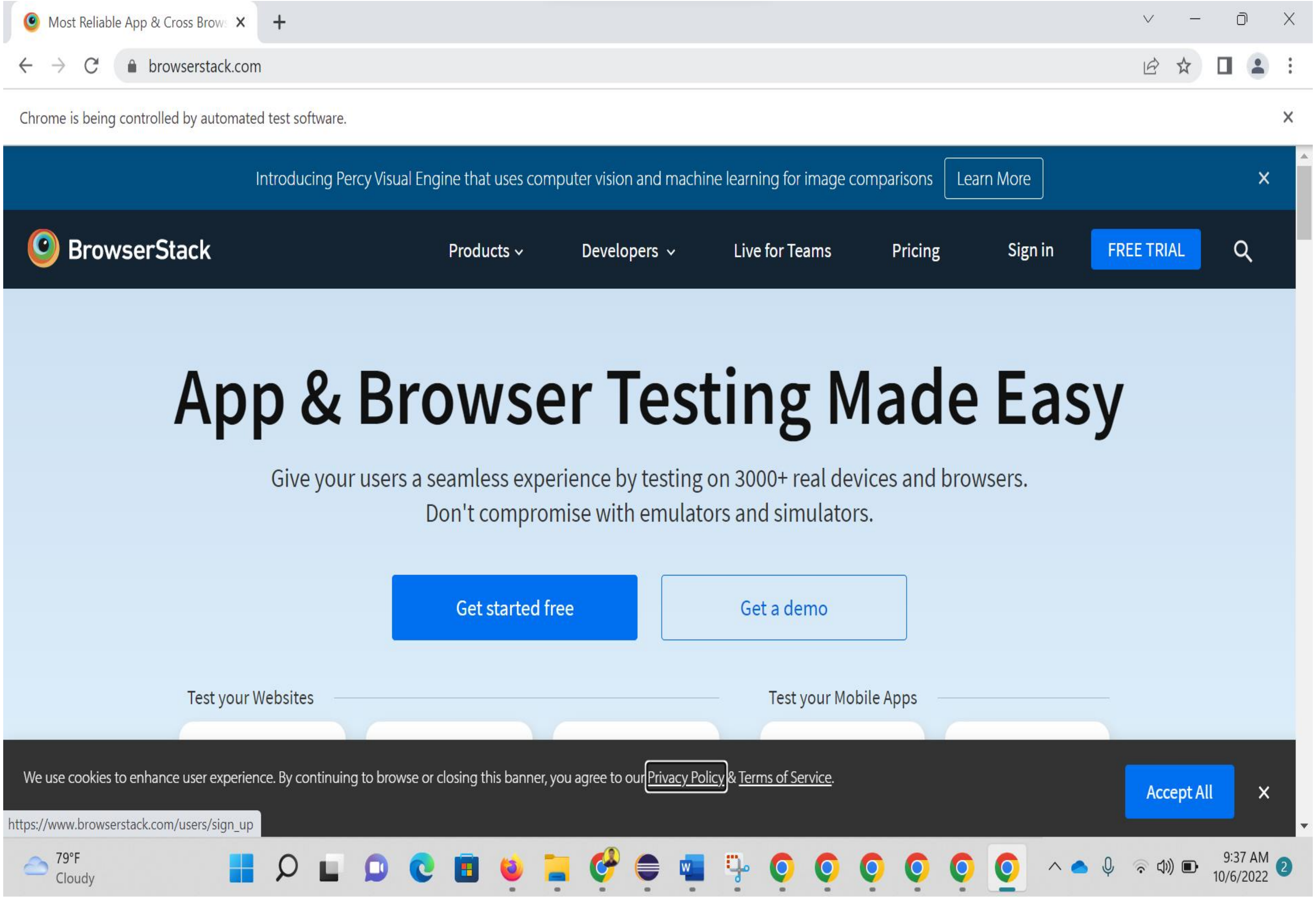

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