Task 15

Question 1: Difference between selenium IDE,Selenium Web driver,Selenium Grid?

Answer: Selenium IDE:

Used to test applications without writing any scripts.
It is an extension which we add to the browser.
It can be recorded and playback.
It gives a selenium command.
It is used only on firefox.
It can be converted into many programming languages like java, c++,Ruby etc.

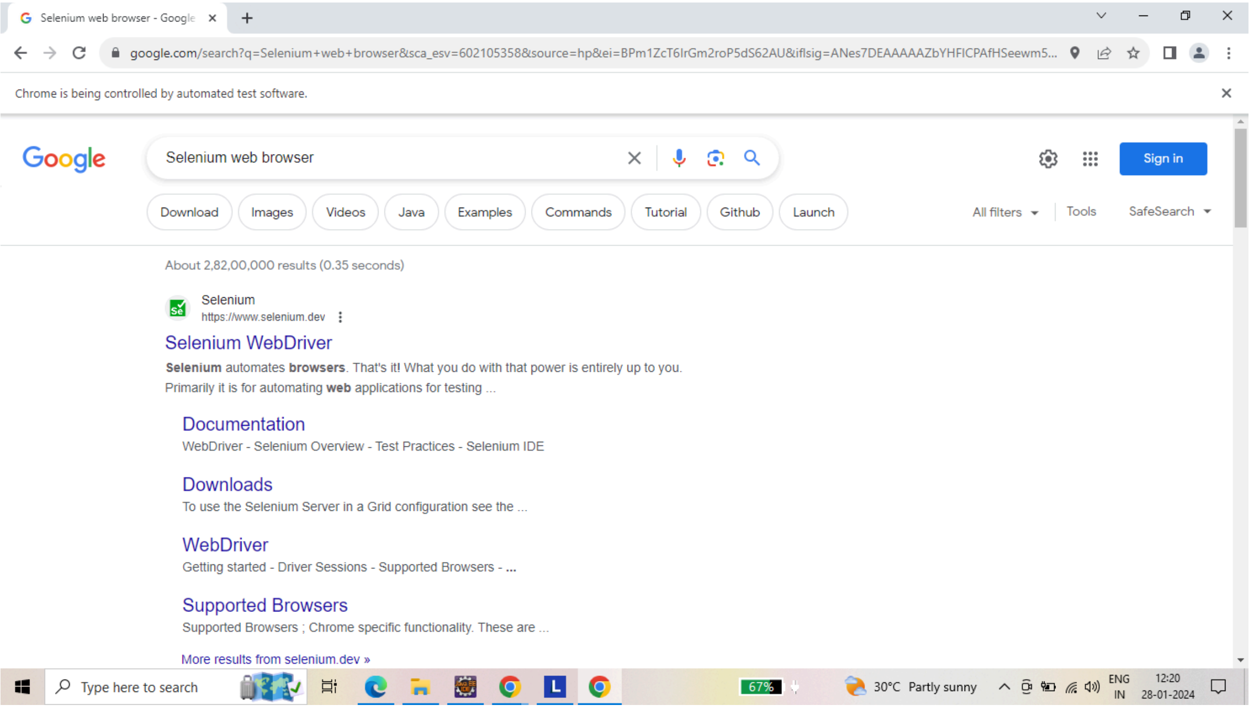
Selenium Web driver:

It lets us write the test scripts in multiple languages like java,python etc.
No need for a remote server in between.
With this we can interact with the web browser using the web driver interface.
It was the first cross-platform testing framework that could control the browser from the level of the operating system.
It accepts commands and sends them to a browser.

Selenium Grid:

Selenium Grid executes our test across multiple browsers, operating systems, and machines.
It uses a hub and node.
Hub - Controls the execution.
Node - Execution takes place.
It is used for parallel testing or distributive testing.
There will be a hub which controls the execution on various machines called nodes.
Selenium Grid is an advanced testing framework for developers and testers.

Question 2: Output for a selenium script in java to open google and search for selenium web browser.


Selenium web browser - Google
google.com/search?q=Selenium+web+browser&sca_esv=602105358&source=hp&ei=BPm1ZcT6lrGm2roP5dS62AU&iflsig=ANes7DEAAAAAZbYHFICPAfHSeewm5...
Sign in
Download
Images
Videos
Java
Examples
Commands
Tutorial
Github
Launch
All filters
Tools
SafeSearch
Type here to search
67%
30°C Partly sunny
ENG
IN
12:20
28-01-2024

Chrome is being controlled by automated test software.

Selenium web browser

About 2,82,00,000 results (0.35 seconds)

Selenium
https://www.selenium.dev

Selenium WebDriver

Selenium automates **browsers**. That's it! What you do with that power is entirely up to you. Primarily it is for automating **web** applications for testing ...

Documentation
WebDriver - Selenium Overview - Test Practices - Selenium IDE

Downloads
To use the Selenium Server in a Grid configuration see the ...

WebDriver
Getting started - Driver Sessions - Supported Browsers - ...

Supported Browsers
Supported Browsers ; Chrome specific functionality. These are ...

More results from selenium.dev »

Question 3:What is selenium and how is it used in automation testing?

Answer: Selenium:

Selenium is a popular open-source testing tool used for web application testing.
It enables testers to write automated tests in various programming languages to test the functionality of web applications.
Selenium tests can be run on many different browsers and operating systems.
It was created by Jason Huggins in 2004.
Initially named as javascript test runner later changed to selenium.

Selenium 3 Architecture:
Java —-> JSON wire protocol —-> Server web driver —--> Web browser.

Selenium 4 Architecture:
Java —-> W3C protocol binds (web driver)   —--> Web browser.

Selenium in automation testing:

It is very popular, free and open source.
Language support (Java,python,Ruby,c#,javascript etc).
Automating web applications from basic to advanced.
Large community support.
Cross browser compatibility and it supports all browsers.
It is platform compatibility.
Integration with other framework and libraries (TestNGJunit,POI,Extent report etc)

Question 4: What are the browser drivers used in selenium?

Answer:
Selenium provides drivers specific to each browser and without revealing the internal logic of browser functionality, the browser driver interacts with the respective browser by establishing a secure connection.

These browser drivers are also specific to the language which is used for test case automation like C#, Python, Java, etc.

Browser and its corresponding browser driver.

Browser	**Browser driver**
Google Chrome / Chromium	Chromedriver
Mozilla Firefox	Geckodriver
Microsoft Edge	Microsoft Edge Web driver
Safari	SafariDriver (in-built)
Internet Explorer	Internet Explorer driver

Question 5: Steps to create a sample web driver.

Answer: Step1 : Selenium tool is a third party, instead of downloading we go with maven repository and search for selenium java, copy the maven dependency.

Step 2: Paste the dependency in pom.xml inside<project> create <dependencies>.Then save.Now many libraries and jar files were added in maven dependencies.It is used to work with Selenium.

Step 3: Add web driver manage dependency from maven repository and save.It is used to work with web drivers.

Step 4: Create a New Package “Task 15”.

Step 5: Create a new class “BrowserLaunch” inside the above package.

Step 6: Inside the main method Set up chrome driver to access the chrome browser using “ChromeDriver driver = new ChromeDriver(); ”

Step 7:Pass the url by “driver.get(“url”)”;

Step 8:Maximize the window using “driver.manage().window().maximize();”

Step 9:Search bar is a web element right click on the web element and select inspect.Select and copy the name or id.
Step 10:Use driver.findElement(By.*id*("APjFqb")) to access the web element.

Step 11:Use “sendKeys("Selenium browser driver")” it is used to access the search element.

Step 12:Use Keys.***ENTER*** to hit enter.

Step 13: Use “driver.close();” to close the window.