1. **What is selenium?**

Ans. Selenium is a free (open source) automated testing suite for web applications across different browsers and platforms.

1. **Components of selenium?**

Ans. There are four components of selenium.

1. Selenium IDE
2. Selenium RC
3. Webdriver
4. Selenium Grid.
5. **Advantage and limitations of selenium IDE?**

Ans. **Selenium IDE advantage –**

1. It is Firefox plugin that is easy to use and install.
2. No programming skills required.
3. Provide record and playback feature.
4. Provide export functionality.

**Limitation –**

1. Can only be used with Firefox.
2. We cannot perform data-driven testing.
3. No support for iterations and conditional operations.
4. No support for exception handling.
5. **What is selenium RC?**

Ans. unfortunately testers using Selenium Core had to install the whole application under test and the web server on their own local computers because of the restrictions imposed by the **same origin policy. In order to remove this problem, Selenium RC was introduced.**

**Advantages –**

1. Supports different programming languages.
2. Support different platforms like windows, Linux and Mac etc.
3. Can perform data-driven testing.
4. Can perform iterations and conditional operations.

**Limitations –**

1. Required to start the server before executing the test script.
2. Slow executing.
3. Complex architecture.
4. It doesn’t support to test iphone/android applications.
5. It doesn’t support Headless browser testing like HtmlUnit.
6. **Difference between selenium RC and webdriver.**

|  |  |
| --- | --- |
| Comparison Type | Difference |
| Architecture | Webdriver Architecture is simpler than Selenium RC. |
| Speed | Webdriver is faster than Selenium RC since it speaks directly to the browser uses the browser's own engine to control it. |
| API | Webdriver’s API is simpler than Selenium RC's. |
| Browser Support | Webdriver can support the headless HtmlUnit browser |

1. **Limitations of webdriver?**

Ans. **Limitations of web driver are -**

A. Webdriver Cannot Readily Support New Browsers.

### B. Webdriver has no built-in command that automatically generates a Test Results File.

7. **What is selenium grid?**

### Ans. Selenium Grid - Selenium grid is developed to minimize the test execution time as much as possible. It allows us to run the selenium test on multiple machines simultaneously. It is done with the help of DesiredCapability and RemoteWebDriver class.

### What is selenium 1?

### Ans. Selenium RC is referred to as selenium 1.

### What is selenium 2?

### Ans. Selenium2 = Selenium RC + WebDriver

### 10. What is latest version of selenium?

### Ans. Selenium3

### 11. Programming languages supported by selenium?

### Ans.

### Java

### C#

### Python

### JavaScript

### PHP

### Ruby

### 12. Browsers supported by selenium?

### Ans.

### Internet Explorer.

### Chrome

### Firefox

### Microsoft Edge

### Safari

### Opera

### 13. What is same origin policy?

### Ans. Same Origin policy prohibits JavaScript code from accessing elements from a domain that is different from where it was launched.

### https://cdn.guru99.com/images/same_origin_policy.png

### 14. Locator Strategy in selenium?

### Ans.

### id

### className

### name

### linkText

### partialLinkText

### xpath

### cssSelector

### 15. How to run the script on firefox browser?

### Ans.

System.setProperty("webdriver.firefox.marionette","path of driver exe");

WebDriver driver = new FirefoxDriver();

### 16. How to run the script on chrome browser?

### Ans.

System.setProperty("webdriver.chrome.driver","path of driver exe");

WebDriver driver = new ChromeDriver ();

### 17. How to run the script on Internet Explorer browser?

### Ans.

System.setProperty("webdriver.ie.driver","path of driver exe");

WebDriver driver = new InternetExplorerDriver ();

### 18. What is the difference between get () and navigate().to () method?

### Ans. Both method will launch the URL but get () method will wait for the page to load and navigate().to() will not.

### 19. What is the difference between close () and quit () method?

### Ans. Close () – It will close the currently focus windows.

### Quit () – it will close all opened windows.

### 20. Different types of waits available in selenium?

### Ans.

### Implicit wait – It is used to set default waiting time for entire script. After each command, it will wait for that time.

### driver. Manage (). timeouts (). implicit Wait (10, TimeUnit.seconds)

### Explicit wait – These are conditional waits. It will wait for condition to occur. If that not occur in defined time, then it throws timeout exception.

### WebDriverWait myWait=new WebDriverWait(driver,10)

### myWait. Until (ExpectedConditions.visibilityOf ElementPresent(By.id(“userName”))

### 21. How to handle alert in selenium?

### Ans.

### Alert al=driver.switch().alert();

### **al.accept() – To accept the alert.**

### **al.dismiss() – To cancel the alert.**

### **al.getText() – To get the text.**

### **22. **How to handle frames in selenium?****

### **Ans.**

### **Driver.switch(). frame (id,name or webElement)**

### **23. **what is the difference between findElement() and findElements() method.****

### **Ans.**

### **findElement() – This method finds a single web element.**

### **findElements() – This method returns a list of web elements matching with the locator criteria.**

### **24. **What is the difference between click () and submit () method?****

### **Ans. **Submit ()** – You can use the submit () method on any element within the form.**

### ****Click ()** – method can be used to submit form or clicking on any button.**

### **25. **How to select value from dropdown?****

### **Ans. Select class is used to select the value from the dropdown. Example**

### **Select drpCountry=new Select(Webelement element);**

### **drpCountry.selectByVisibleText(“some text”);**

### **drpCountry.selectByIndex(0);**

### **drpCountry.selectByValue(“value”);**

### **26. **How to verify that dropdown is multi-Select?****

### **Ans. Using isMultiple() method.**

### **27. **How to clear all selected value from dropdown?****

### **Ans. Using deselectAll() method.**

### **28. **What is the difference between linkText() and partialLinkText()?****

### **Ans.**

### **linkText() - Accessing links using their exact link text is done through the By.linkText() method**.

### partialLinkText() - **Accessing links using a portion of their link text is done using the By.partialLinkText() method.**

### **29. **Is linkText() and partialLinkText () methods are case-sensitive?****

### **Ans. Yes**

### **30. **How to performs dragAndDrop, mouseMovement, doubleClick and rightClick(contextClick) in selenium?****

### **Ans. **Using Actions class. Example –****

### **Actions ac=new Actions(driver);**

### **Ac.moveToElement(webElement element).build().perform();**

### **Ac.doubleClick(element).perform();**

### **Ac.contextClick(element).perform();**

### **31. **How to upload or download a file in selenium?****

### **Ans. We can upload or download file in selenium with the help of AutoIT which is used to handle window-based popup and Robot class and Sikuli which is GUI Automation tool.**

### **32. **What is the difference between Absolute and relative xpath?****

### **Ans.**

### ****Absolute Path –** It is used to select the element from the root node. It starts with single slash ‘/’. Example –**

**/html/body/div[1]/section/div[1]/div/div/div/div[1]/div/div/div/div/div[3]/div[1]/div/h4[1]/b**

1. **Relative Path – It is used to locate the element from anywhere within a page. It starts with double slash ‘//’. Example –**

**//input[@id=’email’]**

**33. How to handle multiple windows in selenium?**

**Ans. Go through this link –**

<https://www.guru99.com/alert-popup-handling-selenium.html>

34. **What is TestNG and its features?**

Ans. **TestNG –** TestNG is unit testing framework that is inspired from another popular Junit Framework used for java programming language. NG means Next Generation. **As it is next generation it provides following features –**

1. Easy to use Annotations.
2. Support parallel testing.
3. Support dependency test.
4. Support prioritization.
5. Support for parameterization.
6. Support Grouping.
7. Support reporting.

35. **Different Annotations in TestNG?**

Ans. **Annotations in TestNG –**

**@BeforeSuite**: The annotated method will be run before all tests in this suite have run.

**@AfterSuite**: The annotated method will be run after all tests in this suite have run.

**@BeforeTest**: The annotated method will be run before any test method belonging to the classes inside the tag is run.

**@AfterTest**: The annotated method will be run after all the test methods belonging to the classes inside the tag have run.

**@BeforeGroups**: The list of groups that this configuration method will run before. This method is guaranteed to run shortly before the first test method that belongs to any of these groups is invoked.

**@AfterGroups**: The list of groups that this configuration method will run after. This method is guaranteed to run shortly after the last test method that belongs to any of these groups is invoked.

**@BeforeClass**: The annotated method will be run before the first test method in the current class is invoked.

**@AfterClass**: The annotated method will be run after all the test methods in the current class have been run.

**@BeforeMethod**: The annotated method will be run before each test method.

**@AfterMethod**: The annotated method will be run after each test method.

**@Test**: The annotated method is a part of a test case

36. **How to set the priority of test in TestNG?**

Ans. Using priority attribute. Example –

@Test(priority=0)

37. **How to perform dependency test in TestNG?**

Ans. Using dependsOnMethod attribute in TestNG. Example –

@Test(dependsOnMethod=”some test name”)

38. **How to perform parallel testing in selenium?**

Ans. Using Parallel attribute in suite. It parallel attribute takes 1 of 3 values.

1. Parallel=” classes”
2. Parallel=” Test”
3. Parallel=” Method”

39. **Types of parameterization in selenium or TestNG?**

Ans. There are two types of Parameterization in Selenium or TestNG.

1. Using xml file.
2. Using DataProvider.

**40. How to exclude a @Test method from a test case with two @Test methods? Is it possible?**

Answer: Yes, you need to add @Test method in the exclude tag of <testng.xml> file as mentioned below.

<!DOCTYPE suite SYSTEM "http://testng.org/testng-1.0.dtd" >

<suite name="Test Exclusion Suite">

<test name="Exclusion Test" >

<classes>

<class name="Your Test Class Name">

<methods>

<exclude name="Your Test Method Name To Exclude"/>

</methods>

</class>

</classes>

</test>

</suite>

**41. How to skip a @Test method from execution?**

Answer: You can use the below syntax inside @Test method to skip a test case from test execution.

throw new SkipException("Test Check\_Checkbox Is Skipped");

It will throw skip exception and @Test method will be ignored immediately from execution.

**42. Can you specify any 6 assertions of TestNG to be used in a Selenium WebDriver software testing tool.**

**Answer:**There are multiple assertions available In TestNG but generally we use the following assertions in out test cases.

1. assertEquals
2. assertNotEquals
3. assertTrue
4. assertFalse
5. assertNull
6. assertNotNull

**43. In TestNG how can you disable a test?**

Answer:

To disable the test case, you can use the following annotation.

* @Test(enabled = false).

**44. Explain what does the test timeout mean in TestNG?**

Answer: The timeout test in TestNG is nothing but the time allotted to perform unit testing. If the unit test fails to finish in that specific time limit, TestNG will abandon further testing and mark it as a failed.

45**. How to read and write data in excel file in selenium?**

Ans. This is done with the help of Apache POI and JXL. Apache POI is latest. It provides large no. of methods and supports different formats.

**46. what is POM and its features?**

Ans. **POM –**

1. It is desing pattern to create object repository for web Ui elements.
2. Under this model, for each web page in the application, there should be corresponding page class.
3. This Page class will find the WebElements of that web page and also contains Page methods which perform operations on those WebElements.

### Features – It makes the code more readable, Maintainable and reusable.

### 47. What is cross browser testing?

### Ans. Cross Browser Testing is a type of functional test to check that your web application works as expected in different browsers.

### 48. What is JavaScriptExecutor?

### Ans. JavaScriptExecutor is an Interface that helps to execute[JavaScript](https://www.guru99.com/interactive-javascript-tutorials.html)through Selenium Webdriver. Syntax –

JavascriptExecutor js = (JavascriptExecutor) driver;

js.executeScript(Script,Arguments);

### Example –

//Creating the JavascriptExecutor interface object by Type casting

JavascriptExecutor js = (JavascriptExecutor)driver;

WebElement button =driver.findElement(By.name("btnLogin"));

//Perform Click on LOGIN button using JavascriptExecutor

js.executeScript("arguments[0].click();", button);

49. **What is desired Capability and its purpose?**

Ans. **Desired Capability -** The Desired Capabilities Class helps us to tell the webdriver, which environment we are going to use in our test script. setCapability() and getCapability() methods are used to set and get environment information.

Here environment is –

1. On which browser we want to run our script.
2. On which platform we want to run our script.
3. On which browser version we want to run our script.

### 50. What is Headless browser?

### Ans. Headless Browsers - A headless browser is a web-browser without a graphical user interface. This program will behave just like a browser but will not show any GUI.

### Some of the examples of Headless browsers are –

### HtmlUnit

### PhantomJS

### Ghost

### 51. What is Log4J?

### Ans. It is fast, flexible and reliable logging framework written in java.

### 52. what is Apache Ant?

### Ans. Apache Ant –

### Apache Ant is open source java based build tool provided by Apache software foundation.

### It is Platform independent.

### Ant full name is Another neat tool.

### 53. Features of Apache Ant?

### Ans. Features of Apache Ant are –

### Compiling of code.

### Execution of code.

### Deletion and creation of files and foldes.

### Creation of war, jar etc.

### Reporting.

### Packaging.

### Deployment.

### We use Apache ant for the purpose of generating Testng-xslt report.

### 54. What is Apache Maven?

### Ans. Maven – Maven is a project management tool. It provides the developer a complete build lifecycle framework. It is similar to Apache Ant but provides some more features like project management, dependency management and project layout.

### 55. Mention build life cycle of maven?

### Ans. Build life cycle of maven is –

### Clean

### Default

### Site

56. **Explain what is Maven Repository? What are their types?**

Ans. A Maven repository is a location where all the project jars, library jars, plugins or any other particular project related artifacts are stored and can be easily used by Maven.

There are three types of repository in maven.

1. Local
2. Central
3. Remote

57. **What is Jenkins?**

Ans. Jenkins – Jenkins is a continuous integration tool developed by Hubson lab. It is cross platform and can be used on windows, linux and mac OS respectively. Jenkins chief usage is to monitory any job and fires pre-configured actions when a particular step occurs in job.

**Benefits of Jenkins –**

1. We can send a mail to developer or other team member after completion of test.
2. Jenkins can be configured to distribute the build on multiple vms
3. We can schedule execution of job.
4. Easily integrate with version control systems like github.
5. It saves execution history and results.

58. **what is the difference between Assert and Verify?**

Ans. **Assert –** In this case, if step fails then whole execution will stop.

**Verify –** In this case, execution will continue if step fails and log the error.

59. What are the testing types that can be supported by Selenium?

Selenium supports the following types of testing:

1. Functional Testing
2. Regression Testing

**60. What is Selenese?**

Ans. Selenese is the language which is used to write test scripts in Selenium IDE.

**61. What is xpath?**

Ans. Xpath is used to locate the element based on its xml path.

**62. How to retrieve css property of an element?**

Ans. The value of the css properties can be retrieved using a getCssValue() method.

Syntax - driver.findElement(By.id(“id“)).getCssValue(“id”);

**63. Things that we can not automate using selenium?**

Ans. A. Capche

1. Barcode
2. Call verification
3. Sms verification
4. Bit map comparison

**64. Features of selenium 3.0?**

Ans. Features of selenium 3.0 are –

1. Minimum java version 8 is required.
2. Support for Microsoft edge is provided.
3. Support for safari browser using apple own safari driver.
4. It will support for firefox via geckodriver.

**65. Mention 5 different exceptions you had in Selenium web driver?**

Ans. The 5 different exceptions you had in Selenium web drivers are

1. WebDriverException
2. NoAlertPresentException
3. NoSuchWindowException
4. NoSuchElementException
5. TimeoutException

**66. Explain how you can switch back from a frame?**

Ans. To switch back from a frame use method defaultContent()

Syntax-driver.switchTo().defaultContent();