




Interview questions



Loop that will return even numbers from 1-10

```
@Test  
  
public void testPrintEvenNumbers () {  
  
    for (int i = 1; i <= 10; i++) {  
  
        if (i%2==0) System.out.println(i) ;  
  
    }  
  
}
```

<https://docs.oracle.com/javase/tutorial/java/nutsandbolts/for.html>



If you want to print "hello world" at even numbers then how would you do it?

```
@Test
public void printHelloAtEvenNumbers () {
    for (int i = 1; i <= 10; i++) {
        if (i%2==0) System.out.println("hello
world");
    }
}
```




Swap two numbers in an array

```
@Test
```

```
public void swapTwoNumbersInArray () {  
    int[] array = {1,2,3,4};  
    swap(array, 1, 2);  
    System.out.println(Arrays.toString(array));  
}
```

```
private void swap(int[] array, int indexL, int indexR) {  
    int temp = array[indexL];  
    array[indexL] = array[indexR];  
    array[indexR] = temp;  
}
```

https://docs.oracle.com/javase/tutorial/java/nutsandbolts/array_s.html



How would you count the number of letters "l"

```
@Test
public void testCountLetters () {
    String input = "hello world";
    int result = 0;
    for(char eachChar : input.toCharArray()){
        if(eachChar== 'l') result++;
    }
    System.out.println(result) ;
}
```


<https://docs.oracle.com/javase/tutorial/java/data/strings.html>



What is a constructor?

```
public class MyClass {  
  
    public MyClass() {  
        System.out.printf("Constructor Called");  
    }  
}
```

<https://www.dummies.com/programming/java/how-to-use-a-constructor-in-java/>



Tell me about WebDriver, how does the Selenium WebDriver interacts with the browser?

When the automation script is executed, the following steps happen:

- for each Selenium command, a HTTP request is created and sent to the browser driver
- the browser driver uses a HTTP server for getting the HTTP requests
- the HTTP server determines the steps needed for implementing the Selenium command
- the implementation steps are executed on the browser
- the execution status is sent back to the HTTP server
- the HTTP server sends the status back to the automation script

Analogy





Is the FirefoxDriver a Class or an Interface?


FirefoxDriver is a Java class, and it implements the WebDriver interface.

What is the super interface of WebDriver?

SearchContext.

Explain the line of code `WebDriver driver = new FirefoxDriver();` ?

'WebDriver' is an interface and we are creating an object of type WebDriver instantiating an object of FirefoxDriver class.



How do you locate elements using WebDriver?

```
WebElement elementName = driver.findElement(By.<LocatorStrategy>("LocatorValue"));
```

```
List<WebElement> elementName = driver.findElements(By.LocatorStrategy("LocatorValue"));
```

<Locator Strategy> can be any of the following values:


- ID
- Name
- Class Name
- Tag Name
- Link Text
- Partial Link Text
- XPATH



Page Object Model

<https://www.pluralsight.com/guides/getting-started-with-page-object-pattern-for-your-selenium-tests>

<https://github.com/SeleniumHQ/selenium/wiki/PageFactory>



How will you work on IE and Google Chrome in WebDriver?

```
System.setProperty("webdriver.chrome.driver", "/path/to/chromedriver");
```

```
WebDriver driver = new ChromeDriver();
```

```
WebDriver driver = new InternetExplorerDriver();
```

<http://chromedriver.chromium.org/getting-started>


<https://developer.microsoft.com/en-us/microsoft-edge/tools/webdriver/>



Name a few loop types

- For Loop
- Enhanced For Loop
- While Loop
- Do While Loop

<https://www.baeldung.com/java-loops>



What is the difference between an Array and ArrayList?

- An array is basic functionality provided by Java. ArrayList is part of collection framework in Java. Therefore array members are accessed using [], while ArrayList has a set of methods to access elements and modify them.
- Array is a fixed size data structure while ArrayList is not. One need not to mention the size of ArrayList while creating its object. Even if we specify some initial capacity, we can add more elements.
- Array can contain both primitive data types as well as objects of a class depending on the definition of the array. However, ArrayList only supports object entries, not the primitive data types.
- Since ArrayList can't be created for primitive data types, members of ArrayList are always references to objects at different memory locations (See this for details). Therefore in ArrayList, the actual objects are never stored at contiguous locations. References of the actual objects are stored at contiguous locations. In array, it depends whether the arrays is of primitive type or object type. In case of primitive types, actual values are contiguous locations, but in case of objects, allocation is similar to ArrayList.




What is Class and Object in Java OOPS?

A class is an entity that determines how an object will behave and what the object will contain. In other words, it is a blueprint or a set of instruction to build a specific type of object.

```
class <class_name>{  
  
    Field;  
    method;  
  
}
```

<https://www.guru99.com/java-oops-class-objects.html>



What is the difference between JUnit&TestNG?

<https://sga.stackexchange.com/questions/18585/what-is-the-difference-between-junit-testng>

<https://www.mkyong.com/unittest/junit-4-vs-testng-comparison/>



Define data driven framework

<https://www.softwaretestingmaterial.com/data-driven-framework-selenium-webdriver/>



What is Data Driven Framework

Data Driven framework is focused on separating the test scripts logic and the test data from each other. Allows us to create test automation scripts by passing different sets of test data. The test data set is kept in the external files or resources such as MS Excel Sheets, MS Access Tables, SQL Database, XML files etc., The test scripts connect to the external resources to get the test data. By using this framework we could easily make the test scripts work properly for different sets of test data. This framework significantly reduces the number of test scripts compared to a modular based framework.



Advantages of using Data Driven Test Framework

- Reusability of code
- Improves test coverage
- Faster Execution
- Less maintenance
- Permits better error handling



What is Selenium?

Selenium is an open source (free) automated testing suite to test web applications. It supports different platforms and browsers. It has gained a lot of popularity in terms of web-based automated testing and giving a great competition to the famous commercial tool HP QTP (Quick Test Professional) AKA HP UFT (Unified Functional Testing).

Selenium is a set of different software tools. Each tool has a different approach in supporting web based automation testing.

It has four components namely,

- Selenium IDE (Selenium Integrated Development Environment)

- Selenium RC (Selenium Remote Control)

- Selenium WebDriver

- Selenium Grid



What is Selenium Grid?

Selenium Grid is a tool used together with Selenium RC to run tests on different machines against different browsers in parallel. That is, running multiple tests at the same time against different machines running different browsers and operating systems.

In simple words, it is used to distribute your test execution on multiple platforms and environments concurrently.



Grid

What are the advantages of Selenium Grid?

It allows running test cases in parallel thereby saving test execution time.

It allows multi-browser testing

It allows us to execute test cases on multi-platform

What is a hub in Selenium Grid?

A hub is a server or a central point that controls the test executions on different machines.

What is a node in Selenium Grid?

Node is the machine which is attached to the hub. There can be multiple nodes in Selenium Grid.



What is an XPath?

XPath is used to locate the elements. Using XPath, we could navigate through elements and attributes in an XML document to locate web elements such as textbox, button, checkbox, Image etc., in a web page.



What is the difference between “/” and “//”

Single Slash “/” – Single slash is used to create XPath with absolute path i.e. the XPath would be created to start selection from the document node/start node.

Double Slash “//” – Double slash is used to create XPath with relative path i.e. the XPath would be created to start selection from anywhere within the document.



What is the difference between Absolute Path and Relative Path?

Absolute XPath starts from the root node and ends with desired descendant element's node. It starts with top HTML node and ends with input node. It starts with a single forward slash(/) as shown below.

```
/html/body/div[3]/div[1]/form/table/tbody/tr[1]/td/input
```


Relative XPath starts from any node in between the HTML page to the current element's node(last node of the element). It starts with a double forward slash(//) as shown below.

```
//input[@id='email']
```



How To Write Dynamic XPath In Selenium WebDriver

<https://www.softwaretestingmaterial.com/dynamic-xpath-in-selenium/>



What are the types of waits available in Selenium WebDriver?

Implicit Waits

<https://www.softwaretestingmaterial.com/implicit-waits-selenium-webdriver/>

Explicit Waits

<https://www.softwaretestingmaterial.com/webdriverwait-selenium-webdriver/>


Fluent Waits

<https://www.softwaretestingmaterial.com/selenium-fluentwait/>



JavaScriptExecutor in Selenium WebDriver With Examples

<https://www.softwaretestingmaterial.com/javascriptexecutor-selenium-webdriver/>



How to input text in the text box without calling the sendKeys()?

```
// To initialize js object
JavascriptExecutor JS = (JavascriptExecutor)webdriver;
// To enter username
JS.executeScript("document.getElementById('User').value='SoftwareTestingMaterial.com'");
// To enter password
JS.executeScript("document.getElementById('Pass').value='tester'");
```



What is Continuous Integration?

Continuous Integration is abbreviated as CI. Continuous Integration is a development practice which aims to make sure the correctness of a software. After each commit, a suite of tests run automatically and test the software to ensure whether the software is running without any breaks. If any test fails, we will get immediate feedback say “build is broken”.

In simple words, continuous integration is a process of verifying the correctness of a software.

Some of the continuous integration tools are Jenkins, TeamCity, Bamboo, Travis, Circle Ci, Bitbucket.

We can schedule the test suite execution using these CI Tools.

<https://martinfowler.com/articles/continuousIntegration.html>

<https://experitest.com/selenium-testing/jenkins-pipeline-selenium/>



Where you have applied OOPS in Automation Framework

<https://www.softwaretestingmaterial.com/oops-concept-in-automation-framework/>



Inheritance

<https://www.geeksforgeeks.org/inheritance-in-java/>



Polymorphism

https://www.tutorialspoint.com/java/java_polymorphism.htm