**Infosys Interview Questions:**

**Different between selenium IDE, RC and webdriver**

Answer: In Selenium webdriver- It can drive the native web application in the browser and we can perform various testing which cannot be done in IDE and RC.

E.g. Android/iOS testing, Handling Alerts, Action, Dropdown and Navigations.

**What is constructor and its types?**

The constructor can be defined as the special type of method that is used to initialize the state of an object. A constructor is a special type of function with no return type. The name of the constructor must be similar to the class name. The constructor must not have an explicit return type. The purpose of a Java constructor is to initializes the newly created object before it is used.

**🡪 Default and Parameterized Constructor**

The default constructor is a constructor that the compiler automatically generates in the absence of any programmer-defined constructors. Conversely, the parameterized constructor is a constructor that the programmer creates with one or more parameters to initialize the instance variables of a class.

**Explain single / and double // in selenium**

🡪 **Single slash** is used to create absolute XPath whereas **Double slash** is used to create relative XPath. Single slash selects an element from the root node. For example, /html will select the root HTML element. Double slash search element from anywhere on the web page.

**What are the locaters?**

🡪 Locators are used to locate the web elements in the Web page.

**What is css locator?**

CSS Selector combines an element selector and a selector value that can identify particular elements on a web page.

**Difference between ArrayList and Linkedlist.**

🡪 ArrayList uses dynamic array to store the elements. But Linkedlist internally uses doubly linked list to store the elements.

**What is collection?**

The **Collection in Java** is a framework that provides an architecture to store and manipulate the group of objects. Java Collections can achieve all the operations that you perform on a data such as searching, sorting, insertion, manipulation, and deletion.

**What is Collection Framework?**

The Collection framework represents a unified architecture for storing and manipulating a group of objects.

**How to iterate list**

1. Obtain an iterator to the start of the collection by calling the collection's iterator () method.
2. Set up a loop that makes a call to hasNext (). Have the loop iterate as long as hasNext () returns true.
3. Within the loop, obtain each element by calling next ().

**What is interface?**

An **interface in Java** is a blueprint of a class. It has static constants and abstract methods. The interface in Java is a mechanism to achieve abstraction. There can be only abstract methods in the Java interface, not method body. It is used to achieve abstraction and multiple inheritance in Java.

**Explain method overriding and method overloading**

Overloading occurs when two or more methods in one class have the same method name but different parameters.

Overriding occurs when two methods have the same method name and parameters. To achieve it, Inheritance is used.

**Can we override main method and why?**

No, we cannot override main method of java because a static method cannot be overridden. The static method in java is associated with class whereas the non-static method is associated with an object.

What is abstract class

**What is Super keyword?**

The super keyword refers to superclass (parent) objects. It is used to call superclass methods, and to access the superclass constructor. The most common use of the super keyword is to eliminate the confusion between super classes and sub classes that have methods with the same name.

**What is encapsulation?**

The meaning of **Encapsulation**, is to make sure that "sensitive" data is hidden from users. To achieve this,

* declare class variables/attributes as private
* provide public get and set methods to access and update the value of a private variable
* Better control of class attributes and methods
* Increased security of data

**What is webdriver?**

It can drive the native web application in the browser and we can perform various testing which cannot be done in IDE and RC.

**What is parent interface of Webdriver? Answer: "SearchContext"**

SearchContext is the **super** most **interface** in selenium, which is extended by another **interface**called **WebDriver**.

**Difference between findelement and findelements**

findelement () is used to find a webElement on a webpage. driver. findelements () is used to find a List of webElements matching the locator passed as parameter.

**Explain throw and throws**

Throw is a keyword which is used to throw an exception explicitly in the program inside a function or inside a block of code. Throws is a keyword used in the method signature used to declare an exception which might get thrown by the function while executing the code.

**Can try with multiple catch possible?**

We can define one try block with multiple catch blocks in Java. Every try should and must be associated with at least one catch block.

**Can multiple try with single catch possible?**

You cannot have multiple try blocks with a single catch block. Each try block must be followed by catch or finally.

**How you read/write the excel?**

By using Apache POI and its dependencies.

**Difference between verify and asset**

Both “assert” and “verify” commands check whether the given condition is true or false and the only difference between them is that:

**Assert:** Assert condition stops the execution of the testing if the given condition is false else would continue with the further tests.

**Verify:** Verify the condition doesn’t stop the flow of execution irrespective of the condition being true or false.

**Wait and its types**

Wait commands test execution to pause for a certain length of time before moving onto the next step.

**Implicit Wait**- The Implicit Wait in Selenium is used to tell the web driver to wait for a certain amount of time before it throws a “No Such Element Exception”.

**Explicit Wait**- The Explicit Wait in Selenium is used to tell the Web Driver to wait for certain conditions (Expected Conditions) or maximum time exceeded before throwing “ElementNotVisibleException” exception.

**Fluent Wait**- The Fluent Wait in Selenium is used to define maximum time for the web driver to wait for a condition, as well as the frequency with which we want to check the condition before throwing an “ElementNotVisibleException” exception.

**Annotation in TestNG:**

TestNG Annotations are used to control the next method to be executed in the test script. TestNG annotations are defined before every method in the test code.

**Locators in selenium**

Class, Id, Tag name, Link text, Partial Link text, CSS Selector, Xpath

**What are frames? How do you handle Frames?**

It is a webpage embedded inside a webpage. It is mainly for security purpose. We can switch to that particular frame using ID, Name, Index and WebElement Reference.

switchTo (). frame(frameNumber) This method uses the frame id as the parameter.

switchTo (). frame(frameName) This method uses the frame name as defined by the developer as the parameter.

switchTo (). frame(WebElement) This method uses the webElement as the parameter.

**Actions in Selenium:**

By using Action class, we can handle mouse and keyboard related actions like mouse hover, drag and drop, right click, double click.

doubleClick (): Performs double click on the element

clickAndHold (): Performs long click on the mouse without releasing it

dragAndDrop (): Drags the element from one point and drops to another

moveToElement (): Shifts the mouse pointer to the centre of the element

contextClick (): Performs right-click on the mouse

**Alerts in selenium**

Alert is a kind of popup window or popup message. We can't find locators for Alert, so to handle an alert we use a method called **driver. switchTo (). Alert ();**

Simple Alert / Prompt Alert / Confirmation Alert

void dismiss () // To click on the ‘Cancel’ button of the alert.

void accept () // To click on the ‘OK’ button of the alert.

String getText () // To capture the alert message.

void sendKeys (String stringToSend) // To send some data to alert box.

**Static variable and static block:**

A static method manipulates the static variables in a class. It belongs to the class instead of the class objects and can be invoked without using a class object. The static initialization blocks can only initialize the static instance variables. These blocks are only executed once when the class is loaded.

**What is scenario and scenario outline?**

Scenario Outline is simply a scenario with a set of examples. Whenever you need to use the Examples section, you need to use the Scenario Outline instead of a Scenario. The difference is that a Scenario will be executed once while Scenario Outline is executed for each example from the table.

**what is difference between streams and collections?**

**Difference in HashMap and Hash table and when do you use them?**

**Explain POM?**

Page Object Model, also known as POM, is a design pattern in Selenium that creates an object repository for storing all web elements. It is useful in reducing code duplication and improves test case maintenance.

**Advantages:**

Clean and Easy to understand code

Multiple tests use same object repository

Reusability of code

**What is Data driven testing?**

**Data Driven Testing** is a software testing method in which test data is stored in table or spreadsheet format. Data driven testing allows testers to input a single test script that can execute tests for all test data from a table and expect the test output in the same table. It is also called table-driven testing or parameterized testing.

**What is stream in Java?**

A stream is a sequence of objects that supports various methods which can be pipelined to produce the desired result.

**Advantage of frame work?**

Language and Framework Support.

Open Source Availability.

Multi-Browser Support.

Support Across Various Operating Systems.

Ease of Implementation.

Reusability and Integrations.

Flexibility.

Parallel Test Execution and Faster Go-to-Market.

**What is your understanding on CD/CI what tools or technologies are important in this?**

The main concepts of CI/CD are continuous integration, continuous delivery, and continuous deployment.

Jenkins- Jenkins is an open-source automation server in which the central build and continuous integration process take place.

**How you achieve parallel execution using TestNG?**

Parallel testing or parallel execution, as the name suggests, is a process of running the test case parallel rather than one after the other. But fails on dependent module. Thread count is basically a number of instances running to execute multiple tests simultaneously or in parallel. The attribute thread-count allows the user to specify how many threads should be run for this execution.

**How will you iterate execution for fail test cases in TestNG?**

By using testng-failed.xml, rerun this xml file in the output.

**what is scenario outline in cucumber?**

**What is use of assert, its types?**

To verify that the state of the application is same to what we are expecting.

assert, verify and waitFor are the types.

**Assert in Java:**

An assert statement is used to declare an expected Boolean condition in a program.

Hard Asserts are used when you want to halt the execution of the test script (or test method) when the assert condition does not match with the expected result. Soft Asserts are used when the test script (or test method) need not be halted when the assertion condition does not meet the expected result.

assertEquals.

assertNotEquals.

assertTrue.

assertFalse.

assertNull.

assertNotNull.

**Where can HashMap used in framework?**

**What is return value or return type of findwebelement?**

The return type of findElements is a list whereas the return type of findElement is a WebElement. If there is no matching element on the page, an exception is thrown by the findElement method.

**Checkbox return type, retrieve all checkbox names?**

It returns a string value which represent the value of the value attribute of a input checkbox field. By using getText ().

**How to handle multiple windows?**

get.windowhandle(): This method helps to get the window handle of the current window

get.windowhandles(): This method helps to get the handles of all the windows opened

set: This method helps to set the window handles in the form of a

string. set<string> set= driver.get.windowhandles()

switch to: This method helps to switch between the windows

action: This method helps to perform certain actions on the windows

**Exception handling and its types**

**Try-catch:** This method can catch Exceptions by using a combination of the try and catch keywords.

**Multiple catch blocks:** There are various types of Exceptions, and one can expect more than one exception from a single block of code.

**Throw/Throws**: When a programmer wants to generate an Exception explicitly, the Throw keyword is used to throw Exception to runtime to handle it.

**ElementNotSelectableException**: An element is disabled (cannot be clicked/selected) in spite of being present in the DOM.

**ElementNotInteractableException:** An element is not in a state, where it can be interacted with (cannot be clicked or able to send keys) in spite of it being present in the DOM.

**ElementNotVisibleException:** In spite of the element being present in the DOM, it is not visible (cannot be interactive). For example, elements defined in HTML with type =

”hidden”. It is a subclass of the ElementNotInteractableException.

**NoSuchElementException:** Webdriver is not able to determine the elements during runtime, i.e., the FindBy method cannot find a particular component.

**NoSuchFrameException:** Webdriver attempts to switch to an invalid frame, which is unavailable.

**NoAlertPresentException:** Webdriver is trying to switch to an invalid alert, which is unavailable.

**NoSuchWindowException:** Webdriver is trying to switch to an invalid window, which is unavailable.

**StaleElementReferenceException:** The referenced element is no longer present on the DOM page (a reference to a component is now Stale). For example, the item belongs to a different frame than the current one or the user has navigated away to another page.

**SessionNotFoundException:** Webdriver is acting immediately after ‘quitting’ the browser.

**TimeoutException:** The command did not complete in the specified time. For example, the element didn’t display at the specified time. This is especially encountered when working with waits.

**WebDriverException:** Webdriver is acting immediately after ‘closing’ the browser.

**What do Code snippets do?**

"Code Snippet" is a term used to describe a small portion of re-usable source code, machine code, or text. They allow a programmer to avoid typing repetitive code during the course of routine programming.

**What is Stale Element exception?**

Stale Element means an old element or no longer available element. Assume there is an element that is found on a web page referenced as a WebElement in WebDriver. If the DOM changes then the WebElement goes stale.

**What is Maven?**

Maven is the software build management tool for frameworks. It is used to get central repository of dependencies. It maintains the common structure across the organization. It has the flexibility in integration with continuous integration tool. Starts from pom.xml file, it reads the pom.xml file and start the execution. It is used to build the software app, manage our dependencies, run our test and create reports.

**What is POM Model?**

Page Object Model, also known as POM, is a design pattern in Selenium that creates an object repository for storing all web elements. It is useful in reducing code duplication and improves test case maintenance. In Page Object Model, consider each web page of an application as a class file.

Where you have used polymorphism & Inheritance in your framework?

Which is class or methods used data from JSON file?

1.Types of locators in java

2.Implementation of HashMap

**Exceptions in java:**

**Checked:** The classes that directly inherit the Throwable class except RuntimeException and Error are known as checked exceptions. For example, IOException, SQLException, etc. Checked exceptions are checked at compile-time. **Unchecked:** The classes that inherit the RuntimeException are known as unchecked exceptions. For example, ArithmeticException, NullPointerException, ArrayIndexOutOfBoundsException, etc. Unchecked exceptions are not checked at compile-time, but they are checked at runtime.

**Error:** Error is irrecoverable. Some example of errors is OutOfMemoryError, VirtualMachineError, AssertionError etc.

Can we override main method?

Can we overload main method?

Annotations in TestNG

Program to count duplicate characters

Program to remove elements from HashMap

How to locate dynamic elements

What is actions class in selenium?

**When is waits used?**

If the locator is found but still NoSuchElement exception is thrown due to webpage loading, then waits are used.

Two types- Static and Dynamic waits.

**Static wait-** Will wait for maximum time is given though the locator is found. E.g. Thread.Sleep.

**Dynamic wait-** It will not wait for maximum time, if the locator is found then it will navigate to next step. E.g. Implicit wait, Explicit wait.

String:

String is a predefined class which is present in **java.lang** package.

It is a set of character or collections of words enclosed within the double quotes.

String is index based one. It starts from 0 and end with n-1.

**Have you used Excel sheet in your project?**

Excel sheet is used as Data Source for tests and also contains Data set for Data Driven Testing. Data Source- Application URL for all the environments, Username and Passwords for different environments, Test Case to be executed. Data Driven Test- Data for different iterations.

**What, if no locator is available in the DOM?**

**Locator is matching with DOM but while running the test execution, it fails?**

**About Myself:**

Sure, so, my name is Sharath chandran and I am from Chennai. For the past 3 years and11 months, I have working as Software Test Engineer. Currently I have been working as Software Test Engineer in Indium Software and my previous experience was with Solvedge Technology. So I have altogether 4 years of experience in both Manual and Automation Testing. Worked on multiple projects involving both web and mobile based applications. I have worked in Healthcare domain and currently in Health Insurance domain as shadow resource. Also an active tester for the Internal project- My Indium which is a Mobile App.

**Why are you looking for a change?**

To make use of better opportunities to learn as well as to grow professionally. Also, for the financial gain as well. I started my career as a Manual tester and moved on to Automation testing in the same organization for almost 2 years. Later I switched to Indium where they hired me as Automation test engineer for some new project but there was no new project and officially I was in the bench for almost 5 months. Later they asked me to support as unofficial shadow resource for the project- Cigna PDP where I worked as Manual Tester for 2-3 months and now they have moved me to the Internal Project- My Indium Mobile App.

**Role of your Position:**

* Analyzing the user requirement.
* Identifying the test scenarios and preparing the test cases.
* Executing various testing phases like functional, integration, Retesting, smoke testing.
* Updating issues in the defect tracking tool and following the issues.
* User Acceptance testing and making reports.

**Test Closure:**

Test closure reports provide a detailed analysis of the types of testing carried out, processes followed, the number of test cycles performed, the status of bugs found, and open defects details. Every QA team prepares test closure reports to ensure that the product release is stable.

**Sticky Notes**