Selenium Important Questions:

1. Diff between get() and navigate().to() method

- get() method is used to open a URL in browser window and **it will wait till all web element or components to be loaded in webpage**, and once the all element is loaded then it will start performing actions on element. this method preset inside WebDriver interface and return type of this method is void.

- navigate().to() method is also used to open a URL in browser window **but it will not wait till all web element or components to present in web page**, it will start perform operation immediately, to() method it accept the String type arguments as well as URL type arguments and to() method present inside the Navigation interface and return type is void. By using Navigation interface we can perform back , forward and refresh operation also.

2. Diff between close and quit() method

- close() method is used **to close the single browser window** which is opened in current script by selenium, close() method present inside the WebDriver interface and return type is void. Just imagine we have 2 tabs after closing one tab it will close only current tab or window but still session is running and we can perform some operation on another window or tab.
- quit()method is **used to close the all or multiple browser** which is opened in current script by selenium, quit() method present inside WebDriver interface and return type is void. quit() method it will close all session and after closing the session, if we try to perform operation then immediately will get No Session found exception.

3. Diff between findElement() and findElements() method

- findElement() method is used to **find the single element in webpage** by using given locator**, return type of findElement() method is WebElement** and this method present inside the WebDriver interface, SearchContext interface and WebElement interface.

- findElements() method is used to **find the multiple elements in webpage** by using given locator, **return type of findElements() method is List<WebElement>** and this method present inside the WebDriver interface, SearchContext interface and WebElement interface.

4. **Which type of Exception it throws in findElement and findElements methods in element not found?**
   - If element is not found in findElement () method it throughs **NoSuchElementException.**
   - If element is not founds in findElements () method, **nothing exception through in findElements() method.**

5. ***Diff between get text method and get attribute method?***
   - getText() method is used to **capture the physical text in web page** and
   - getAttribute() method is used **to capture inner html attribute of the HTM**L code, both method present inside the Web Element interface and return type of both method is String and at the time use of get attribute method compulsory we have pass attribute key name.

6. ***Diff between absolute xpath and relative xpath?***

   - absolute xpath is complete **path from root node to desired node** and relative xpath is incomplete path we **can start referencing element middle of the point.**
   - absolute xpath is start with **single forward slash** and relative xpath is start with **double forward slash**.
   - absolute xpath is find the single element and by relative xpath we can find multiple elements
   - absolute xpath is start with html tag and relative xpath we can start anywhere html body tag.
   - Absolute xpath fasted xpath in selenium and relative xpath is slow as compare with relative.
   - In absolute xpath we mention long xpath and relative we different methods and keyword to decrease the xpath size,
   - There are different keyword and methods present inside the relative xpath example as like contain(),text(), starts-with(),following keyword, preceding

keyword, following-sibling keyword, preceding-sibling keyword , parent keyword, child keyword etc.

7. Why we don't use absolute XPath?

- The relative xpath starts by referring to the element that we want to identify and not from the root node. A relative xpath starts with the // symbol. It is mainly used for automation since even **if an element is removed or added in the DOM, the relative xpath is not impacted.**

8. How to handle drop down in selenium

- if drop down element tagname start with select tag, then we are using Select class from Selenium to handle the drop down.
- First we have to find the drop down element by using findElement() method store in WebElement and then we have to create Object of Select class by passing WebElement instance.
- There are 3 ways we can handle the drop down 1st by using **selectByIndex**() method and 2nd way by using **selectByValue() method** and 3rd way by using **selectByVisible**() text method, in my current framework we are using select by visible text method to handle the drop down, all above method present inside the Select class and return type is void,
- And if u want verify which value is selected then we use get first selected option method and to capture the value we use get text method. And if u want to check how many value present inside the drop down we use get options method return type of this method is list of web element and then we use size method to capture the size.

9. How to handle drop down without using select class in selenium

- There are 2 ways we can handle drop down without using select class and 1st way by using find elements method and 2nd way by using java script executor interface.
- 1st way we find all the drop down elements by using find elements method return type of this method is list of web element then we iterate all the drop down value using loop and inside the loop we mention if condition and

inside this if condition we mention expected value and this value is present then click on it and then break the loop.

- 2nd way we find the drop-down element and we store in web element then we can convert web driver object into java script executor then we use execute script method and inside this method we use arguments and value keyword by passing value attribute from drop down options tag in html code and then 2nd argument will be the web element instance,

10. Diff between implicit wait and explicit wait

- implicit wait is applicable for all element in webpage and explicit wait is applicable for single element in webpage,
- implicit wait is also known as **Global wait** and explicit wait is known as **Local wait** because it is applicable for single element
- implicit wait it throws "**NoSuchElementException** if element is not found within the time and Explicit wait it throws **TimeOutException** if element not found within the specific time
- We Never mention Expected Condition is implicit wait and in explicit wait always we have mention Expected Conditions.
- Implicit and explicit wait is known as **dynamic wait** because we declare wait 30 sec and if element within then few seconds then it will ignore remaining seconds, we use implicit wait in base class in framework because base class is super parent class of all the classes in framework and as per the requirements wise we use explicit wait.
- Implicitly wait method present inside the Time Outs interface and return type is time outs interface and if u want use explicit wait then we have to create object of WebDriver Wait class. And then we use expected conditions there.

11. What is synchronization?

- it is process of matching speed of application under test and test tool give instruction one by one with same speed in order to get proper execution then we use Synchronization
- there are 2 types of Synchronization 1st is unconditional Synchronization and 2nd is conditional Synchronization.

- In unconditional Synchronization we specify time out value, we will make tool to wait certain amount time and then proceed, once specific seconds is over then it will execute next statement.
- In Conditional Synchronization is applicable only for findElement() and findElements()methods and it does not work for all command and statements in application,
- there are 3 different types in conditional synchronization
    i. **implicit wait**
    ii. **explicit wait**
    iii. **fluent wait.**
- Implicit wait is also known as global wait which is applicable for all the element and if element is not found then it throws no such element found exception and explicit wait is applicable for single element and it is also known as local wait and inside the explicit wait if element not found then it throws TimeOutException and fluent wait is applicable for single element and it is also known as local wait and it is also used to handle the exceptions and fluent wait is used to change the element searching time.

12. Diff between explicit wait and fluent wait

- explicit wait is appliable for single element same as like fluent wait also applicable for single web element
- explicit wait it will search element as per the **default searching time** and by using **fluent wait we can change element searching time**
- explicit wait and fluent wait both known as dynamic wait because if element found within few seconds then it will ignore remaining all seconds.

13. Which type of wait we use to ignore the Exception in Selenium?

- We use fluent wait to ignore the Exception in Selenium

14. How to handle alter pop?

- if we click on element and if it is generating alert pop, and if we try to inspect this alert pop, we cannot inspect it. So first we have to switch our focus from main window to alert pop window, then we use switch to dot alert method then returns type of alert method is one Alert interface and inside this alert

interface selenium define 4 method which is used to perform operation on alert pop.

i. If u want to click on ok button then we **use accept() method**
ii. if u want to click on cancel button then **we use dismiss() method**
iii. If u want to capture the alert text then **we use getText() method**
iv. if u want to send text to the alert pop then **we use sendKeys()** method, above all method present inside the alert interface return type of accept method, dismiss method and send keys method is void and return type of get text method is String because it return the captured string.

15. How to handle frame in selenium

- HTML frame are used to divide the browser window into multiple sections, where each section can load a separate HTML Page document, frame are sections of the web page displayed on top window, whenever we access the page then it will focus on top window, and If u want to perform some operation on inside the frame element then first we have to switch our focus to child frame there are 4 ways we can switch focus to child frame 1st way by using frame index, frame index start from top left to bottom right and it starts from index 0. 2nd way we can switch focus to the frame by using frame name and 3rd we can switch focus to child by using frame id and 4th way we can switch to the frame by using frame web element, we locate the frame and then we store in one element then we use switch to dot frame method by passing frame web element. we cannot switch from child frame to child frame directly so first we have to switch our focus from child frame to parent frame then we can switch focus to the 2nd child frame, if u want to switch focus to immediate parent frame then we use parent frame method and if u want switch focus to main frame or top frame then we use default content method, all frame method present inside the target locator interface and return type of all frame method is Webdriver interface.

16. How to handle multiple tabs in selenium

Or

17. How to handle multiple window in selenium

or

18. How to handle window based pop in selenium

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- we handle windows or tabs or window pop with the help of getWindowHandle() method return type of this method is String and it will return the current window id number. And if u want to handle multiple window then we use getWindowHandles() method, return type of this method is Set<String> and it return all window id number. There are 3 different ways we can capture the id number of other window, 1st way using for loop or enhance for loop, 2nd ways using ArrayList class and 3rd ways by using Iterator interface.
- if u want to capture window id number by using for loop or enhance for loop then first we capture main window id number, and then at the time of perform some operation if it is open a second window then we use get window handles method and then we check size of the window with the help of size() method then we iterate the for loop and inside the for loop we can compare parent id number with other window Id number and inside the if block we write logic as like if parent id not equal to other window then capture the 2nd window id Number. Once we capture 2nd window id number then we switch our focus to other window with the help of switch to dot window method by passing 2nd window id number
- if u want to capture window id number by using Array List class then first we capture main window id number, and then at the time of perform some operation if it is open a second window then we use get window handles method and return type of get window handles methods is set of string, here we convert set of string into array list of string because set does not maintain the insertion order, and here we create object of array list of string class by passing the set of string instance and then we capture the other window id number with the help of get method from array list class by passing index position, Once we capture 2nd window id number then we switch our focus to other window with the help of switch to dot window method by passing 2nd window id number

- if u want to capture window id number by using Iterator interface then first we capture main window id number, and then at the time of perform some operation if it is open a second window then we use get window handles method and return type of get window handles methods is set of string and then we use iterator method to iterate one by value return type of iterator method iterator interface and inside the while loop we has next method if it is next window present it execute one more time loop and inside the this we use next method to capture the next window id number next method present inside the iterator interface and once we capture the other window id number, then we switch our focus to other window with the help of switch to dot window method by passing 2nd window id number.

19. How to perform right click operation

- We perform right click operation in selenium with the help of Action class context click method, first we have to locate the web element and then we store in web element, then we create object of Actions class by passing web driver instance , then we use context click method by passing web element instance and then build method and perform method, **contextClick() method** will perform right click on element , build method will combine the action and perform method will execute the action.

20. How to perform mouse over on element

- We perform mouse over on operation in selenium with the help of Action class move to element method, first we have to locate the web element and then we store in web element, then we create object of Actions class by passing web driver instance , then we use **moveToElement() method** by passing web element instance and then build method and perform method, move to element method will perform mouse over on element without click , build method will combine the action and perform method will execute the action.

21. Diff between Actions class and Action interface

- Actions class is used to perform actions on WebElement, Actions class defines multiple methods **to perform actions on element as like click method, double click method, context click method, click on hold method, move to element method, release method , drag and drop method etc**. these methods are used to perform action on element.
- **Action interface methods are used to execute the performed actions** and inside the Action interface we have only method present that is perform method. If u want to combine multiple actions then we use build which is present inside the Actions class and return type is Action interface

22. Diff between build() and perform() method

- build method is used **to combine the multiple actions in single statement** and perform method is used **to execute each and every combined actions**. build method present inside the Actions class and perform method present inside the Action interface, build method return type is Action interface and perform method return type is void. if we have single actions then directly, we are using perform method without build method but if we have multiple actions then compulsory, we have use build and then perform method.

23. Diff between parentFrame and defaultContent method

- parentFrame method is used to switch to **the immediate parent frame** and defaultContent method it **will switch to the top frame or main frame**. Both methods present inside the target locator interface and return type of both method is Webdriver interface. Each method is used in frame.

24. How to handle calendar?

- in my current project we have customer billing date calendar. once we click on date object then it displays the calendar, inside the calendar heading it display the current month and year, so first we capture the displayed current month and year with the help of getText() method then we execute infinite while loop and then we compare with expected month and year with our

requirements month and years, if it is expected month and year is not equal then we click on next button and Once we found expected month and year then we break the loop and then we select the expected date.

25. How to handle dynamic table

- in my current project we have customer billing date calendar that is dynamic html table. once we click on date object then it displays the calendar, inside the calendar heading it display the current month and year, so first we capture the displayed current month and year with the help of getText() method then we execute infinite while loop and then we compare with expected month and year with our requirements month and years, if it is expected month and year is not equal then we click on next button and Once we found expected month and year then we break the loop and then we select the expected date.

26. Which is fastest driver in selenium

- Inside the selenium each and every browser there is driver, this driver are used to connect to the actual browser. There are different types of driver in selenium as like chrome driver, Firefox driver, edge driver , html unit driver etc. out of this all driver **html unit driver is fastest driver in selenium**.

27. What are the different types of locator in selenium?

- *There are 8 types of locators in selenium which is used to find the Element or object in web page*

i) Id
ii) Nam
iii) className
iv) tagName
v) linkText
vi) partialLinkText
vii) cssSelector
viii) xpath

28. Which is fastest locator in selenium

- Inside the selenium there different types of locator are used to locate the element in web page, there are 8 types of locator in selenium id, name, class name, link text , partial link text, CSS selector and xpath. Out of this **all id locator is fastest locator in selenium.**

29. What is different tools present inside the Selenium

- Selenium is an open-source web browser automation tool and is used to automate the regression and system testing. there are 4 different tools present inside the selenium 1st **Selenium IDE** that is Integrated Development Environment, 2nd **selenium RC** that is remote control, 3rd **Selenium WebDriver** and 4th **Selenium Grid,**
- Selenium IDE is used to record the test cases and play back the recorded test cases and also it is used to create the test cases with the of selenese commands and execute the test cases.
- Selenium RC is same as like selenium Webdriver but it is out dates tool in current market.
- Selenium Webdriver is interface in selenium it is used to create test cases, edit the test case and also execute the test cases and it most famous tool in current market.
- Selenium grid it is used to run test cases in different operating system and different browser and by using selenium grid we can only run the test cases and we can not write test cases using selenium grid.

30. What is selenium suite of tool

- Selenium is an automation testing tool used to test web-based applications. Selenium is not a single tool but it is an suite of tools. There are four components of Selenium – Selenium IDE(Integrated Development Environment), RC(Remote Control), WebDriver, and Grid.

31. How to take screen shot in selenium

- TakesScreenshot is an interface in selenium is used to capture the screenshot of webpages, to capture the screenshot first we have to convert WebDriver object into Takes Screenshot, then we use getScreenshotAs() method to capture the actual screenshot and this getScreenshotAs() method will return File class Object and then we copy captured screenshot from one location to another location then we use FileUtils class and copyFile()method by passing source location and destination location. File Utils class present inside the common io library so first we add this dependency in pom.xml file.

32. How to take full web page screenshot in selenium

- By using selenium takes screenshot interface we cannot take whole web page screenshot so we have use third party Ashot maven dependency.
- First we have to create object of Ashot class then we use shooting strategy method and then after we use take screenshot method and return type of this method is Screenshot class and we copy the screen shot to desired location with the help of Image io class.

33. How to launch browser in headless mode

- If u want launch the browser in headless mode then first we have to create object of ChromeOptions class and then we use **addArguments**() method and inside this method we pass string argument as hyphen hyphen headless keyword [**--headless**] and then we pass same ChromeOptions object name into Chrome driver constructor.
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34. How to open URL in incognito mode.

- If u want launch the browser in incognito mode then first we have to create object of ChromeOptions class and then we use add Arguments method and inside this method we pass string argument as hyphen hyphen incognito keyword [--] and then we pass same ChromeOptions object name into Chrome driver constructor.
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35. What the 5 different methods present in selenium to click on elements.

There are 5 ways we can click on WebElement

i) We can use WebElement click method
ii) WebElement submit method to click on element
iii) we can use click method from Actions class.
iv) We can use Keys.Enter method from Actions class.
v) we can use java script executor click method to click on elements.

36. how to send text without using sendKeys() method in selenium.

There are 3 ways can send text to text box

i. WebElement sendKeys method.
ii. Actions class SendKeys() method
iii. JavascriptExecutor value attribute then expected text

37. How to open a browser without using get() and navigate().to() method

Or

How to open a browser by using JavascriptExecutor?

- We can open a URL by using 2 different ways in java script executor, first we convert driver instance into java script executor the we use execute script method and inside this method we use **window.location="URL"** keyword and we pass URL and 2nd way we can open URL by using **window.open()** method by passing URL.