**1.what is the menaing of WebDriver driver=new ChromeDriver(); ?**

**Web**driver is an interface

Driver is local valriable

New is a keyword for creating a object

chromeDriver is coming from the chromeDriver class, so we are not calling constructor here.

ChromeDriver will open the chrome browser and perform the actions.

🡪we are creating a chromedriver instance and strore it in a variable called ‘driver’, which is the type of WebDriver interface.

**2.list about interfaces in selenium?**

* Webdriver
* javascriptExecutor
* TakesScreenshot

**3.classes in selenium**

* RemoteWebDriver
* chromeDriver
* EdgeDriver
* FirefoxDriver and etc..,

**4. why do we need to typecast the Webdriver instance to use TakeScreenshot or javascriptExecutor?**

WebDriver driver=new ChromeDriver();

Webdrivver instance will call all the drivers lie, chorme,edge, firefox etc.,

**1.**ChromeDriver driver=new chromeDriver();(if your project supports only one driver like chrome you can use it the line)

Javascriptexecutor js=driver;🡪if I using chromedriver instance no need to typecase here,it will show all the methods.

**2**.chromeDriver instance call only the chromeDriver classes, here I use driver. All the methods are showing in the code, but I am using (WebDriver) driver. Only some methods are shown. (webdriver have only the webdriver methods),That’s why we need to typecast here,

Javascriptexecutor js=( Javascriptexecutor) driver; if you are using Webdriver instance in your program you can definitely use typecasting in **javascript** executor and **takesScreenshot**

**5.what is a broken link?**

Broken link Is a link on a website that no longer exists.

For example, if customer visit one website and click on a link, then you will expect the link will working , you will expect the link will open some web page, instead of that it is showing some kind of errors like 404 or site cannot be reached so this kind of error it is showing to you, those links are called broken links.

**6.how to find broken links using selenium webdriver?**

**If user** send a url to the server, then server will try to identify the webpage, if the web page is found it will return you the responses. If the web page is not found it will return you the responses with error code.

Code in Eclipse—Selenium learning-assignments

7.**how to find the broken images using selenium webdriver?**

**🡪**the reason is may be the image is deleted from the server or may be the image address is modified.

Program in eclipse—selenium learning-assignment—same as broken code

**8.xpath axes? -example in screenshot folder**

* Ancestor and ancestor-or-self
* Descendant and descendant-or-self
* Parent
* Child
* Preceding sibling
* Following sibling

9.**What is WebDriver?**

* Webdriver is an interface which contains no.of classes like, chromedriver, edgedriver, firefoxdriver etc.,
* Webdriver is also called API which contains no.of classes.
* Webdriver is one of the component in selenium suite.

**10.selenium disadvantages?**

* Doesn’t support file upload and graphs

**Overcome these problems we can download the 3rd party libraries in selenium webdriver**,

🡪if you want to automate window based applications , use Autoit other option is sikuli.

🡪if you want to perform Data DRIVEN testing in excel we can use Apachi poi library, we can integrate with selenium webdriver then we can achieve it,

🡪if you want to generate a report , you can use extentreport library

**11.Selenium Webdriver Architecture?**

🡪Till selenium 3.8 we have used JSON wire protocol

When we use JSON ,encode and decode is required

(followed json)Client libraries->JSON wireprotocal->browser driver->browser(followed w3c)

🡪after selenium 3.11, they introduced W3C protocol.

Client libraries->w3c protocol-> browser driver->browser

**12.How w3C works?**

* **There** is no encoding and decoding here(sending the request to the drivers)
* **Client** libraries directly talk with the browser drivers and browsers

**13.What are all the advantages when we replace the W3C protocol?**

**🡪**all the scripts will be executed in stable, there is no inconsistency

🡪consistency

**14.how to launch browsers in webdriver?**

Firefox->geckodriver.exe

**15.how to open url?**

**16.how to capture the title of the page?**

System.out.println(driver.getTitle());

**17.how to capture the url of the page?**

System.out.println(driver.getCurrentUrl());

**18.how to capture the pagesource of the page?**

System.out.println(driver.getPageSource());

**19.ilegal state exception?**

File Path is incorrect

**20.what is WebDriverManager?(instead of using driver.setproperty)**

WebDriverManager.chromedriver().setup();

We can directly specified the methods which will launch the chrome browser, edge, firefox and so on.

We no need to download the drivers manually, it will automatically take care of the all drivers(add the dependency in pom.xml)-before selenium 4.8.0

**21.how to check the webelement is IsDisplayed, isSelected, isEnabled ?**

IsSelected method is usied for radio button, check boxes, and drop down

**22.how to navigate back and forward?**

**23.how to refresh a page?**

**24.what is the diff b/w driver.get() and navigate.to()?**

WebDriver->RemoteWebDriver(class)

* Both methods are used for opening URL in the browser. There is n difference b/w them.
* They are synonyms for one another.
* The only difference is that can be found in the parameters.
* Get() accepts only one String parameter.
* Navigate().to accepts String parameter and URL instance as parameter.

**25.Webdriver inner interface?**

* Navigation
* Target locator
* Window
* Options

**26.no such elementFound exception?**

🡪Unable to locate the element

**27.what is the difference b/w findElement() and findElements()**

|  |  |
| --- | --- |
| **FindElement** | **FindElements** |
| Find the first element in the web page | Find all the elements in the web page |
| It return the only one webElement | It returns the list of WebElements |
| If the element is not found ,it will throw an Nosuch ElementFound exception | If the element is not found, it doesn’t throw any exception, instead of it will return 0 elements |

**28.how to enter & clear text from input box?**

**29.how to capture text from input box?**

WebElement emailbox=driver.findElement(By.id(“name”));

Syso(Emailbox.getAttribute(“value”));🡪value is an attribute

Syso(Emailbox.getText());

**30.what is the difference b/w getText() and getAttribute(‘value’)?**

GetAttribute will return the value which associated attribute.

🡪method fetches the text contained by an attribute in an html document.

getText will return the inner text of a particulat webelement.

<input name=”sahu” id=”user”>sadhana</input>

**31.how to handle dropdown in selenium webdriver?**

Using Select class and methods

**32.how to selecting the option without using the methods?**

Select sel=new Select(driver.find);

List<WebElement> allOption=sel.**getOptions();**

For(WebElement opt:allOption)

{

If(opt.getText().equals(“india”);

{

Opt.click();

Break;

}

} this generic method is not recommended for a single drop down, it will be useful for multiple dropdowns,

**33.how to handle multiple dropdowns?**

* You have to store your xpath in webElement
* You can create static user define methods and pass the WebElement and String value
* Create a select class inside
* Iterate through for each loop
* And click the option

Example in eclipse🡪Selenium learning->assignment

34.**how to handle BootStrap dropdown in selenium WebDriver?:**

**BootStrap:**

BootStrap is a popular CSS framework for developing responsive websites.

🡪here in DOM there is no select tag, so we cannot use select class here.

🡪get all the dropdown options in list of WebElements

🡪iterate through for each loop.

Example🡪eclipse🡪selenium learning->assignment-bootstrap

**35.how to check drop down options are sorted in selenium webdriver?**

* DropdownList🡪2 parts🡪 Original List ,temporary list
* Sort the temporary list
* Compare the sort temp.list to original list
* If the bothe lists are equal it is consider as sorted order otherwise its consider as unsorted order.
* You can use getOptions and store it in a list <WebElement>

Example🡪 eclipse🡪 selenium learniung🡪assignment 🡪sortUnsortdropdown

**36.how to handle auto suggest drop down in selenium WebDriver?**

**🡪for example** if I enter something like selenium in google search it will displayed some auto suggestions

* Find the xpath of the search button and pass the value using sendkeys
* It show some suggestions, I can find the exact xpath of the dropdown lists
* Store it in a list <WebElement>
* Iterate through for each loop
* Check the list option conatain or equal to the value, if it is true click on the value  
  Example🡪 eclipse🡪 selenium learniung🡪assignment->autosuggesstion

**37.how to handle autocomplete google places drop down in selenium webdriver?**

🡪API triggered the suggestions, options are dynamically come from the server, we cannot inspect this, this is called as autocomplete google places drop down.

* Find the xpath of textbox
* First clear the value
* Pass the value using sendkeys
* It show some auto suggestions, but we cannot inspect this.
* So we can use down Arrow key to we can just navigate the suggestions
* I don’t know how many suggestions are there, so I will use do while loop
* Inside the loop use down arrow , and store the value in to text variable
* Use Keys.Enter
* While(!text.isEmpty())

**38.how to select a specific check box?**

Use the xpath and click it as normal

**39.how to select all the check boxes?**

Using for loop and for each loop

**40.how to select multiple check boxes by choice?**

Using for each loop and store it in String name=(ch.getAttribute(“id”)

Use if condition to check if(name.equals(“mon”) || name.equals(“sun”))

And then ch.click();

**41.how to select last 2 check boxes?**

Minus the total check box num -2 , so the loop will start from 5

**42.how to select first 2 check boxes?**

You have to check the condition inside the for loop if(i<2)

Above 5 programs in one file->eclipse->selenium learning->assignment🡪checkboxes

**43.how to handle browser windows in selenium webdriver?**

Set<String> windowid=driver.windowhandles(); //**first method**

Iterator <String> it= windowid.iterator();

String parent=it.next();

String childid= it.next();

Syso(parent); -🡪**return ID’s of multiple browser windows**

//**second method**

List<String> windowidlist=new ArrayList(windowid); 🡪converting set to list

String parentwindow= windowidlist.get(0);

String childwindow= windowidlist.get(0);

Syso(parentwindow);

Syso(childwindow);

**44.how to switch b/w multiple browser windows?**

Driver.switchTo().window(parentwindow);

Syso(driver.getTitle());

Driver.switchTo().window(childwindow);

Syso(driver.getTitle());

**(instead of using this we can use for each loop)**

List<String> windowidlist=new ArrayList(windowid);

For(String windid: windowidlist)

{

String title=Driver.switvhTo().window(winid);

Syso(title);

}

**45.how to close all browser windows?**

Driver.quit();

**46.how to close specific browser window by choice?**

For(String windid: windowidlist)

{

String title=Driver.switvhTo().window(winid);

If(title.equals(“title”))-🡪close one window

🡪if u want to close 1,3 5 windows if(title.equals(“titl”) || title.equals(“title”))

Use Or operator

{

Driver.close();

}}

**46.how to locate links in selenium webdriver?**

Driver.findElement(By.linkText(“Top Deals”)).click();

Driver.findElement(By.PartiallinkText(“Top Deals”)).click();

**47.diff b/w linktext() and partial LinText()?**

**48.how to capture the all link from the web page?**

**Store the all links in list<WebElement> link=driver.findElement(By.tagName(“a”));**

**1.Using for loop**

**For(int i=0;i<links.size();i++)**

**{**

**Syso(**links.get(i).getText());

**Syso(**links.get(i).getAttribute(“href”));

}

**2.Using for each loop**

**49.broken link?**

Greater > 400 we can consider as a broken link

Eclipse->brokenlinkAnotherProgram

50.**how to handle javascript alerts? (3 types)**

**3rd**

driver.findElement(By.xpath("//button[text()='Click for JS Prompt']")).click();

Alert val=driver.switchTo().alert();

val.sendKeys("sadhana");

val.accept();

**51.how to handle authendication pop-ip?**

driver.get("https://**admin:admin@**the-internet.herokuapp.com/basic\_auth");

**username:password@**

**52.how to handle permission based pop-up?**

ChromeOptions opt=**new** ChromeOptions();

opt.addArguments("--disable-notifications");

*driver*=**new** ChromeDriver(opt);

**🡪programs in eclipse**

**53.what is the difference between frame and iframe?**

🡪iframe is, which is having some content which is coming from a different source.

🡪whenever you have some elements on the inside the iframe, we cannot directly interact with those elements.

**54.how to handle iframes in webdriver?**

**3 methods:**

Driver.switchTo.frame(name of the frame/id);

Driver.switchTo.frame(WebElement);

Driver.switchTo.frame(index);

**55.how to switch b/w multiple iframes?**

**For example:**if we have a 3 frame inside a web page,

* First we have to switch on first frame
* And go back to the main page(driver.switchTo.defaultContent());
* Second go to 2nd frame and come back to the main page
* Then go to 3rd frame
* This the way you have to traverse

**56.how to work with inner iframes?**

**if we have** 2 frames

🡪first you have to click outside the frame and get some text(if there)

🡪then you have to move on inside the frame

**Imp:**

🡪you can also traverse back like,

1.First you go to the inside frame

2.Switch t parent frame---- driver.switchTo.parentframe();

3.And go to outside frame

**57.what is synchronization problem in automation?**

🡪A balance b/w your automation script and your application. So most of the time your automation script will be faster that your application response, so that’s the reason your automation script will definitely failed sometimes, because the element will not be available by the time or particular page will not be available by the time. So this is a synchronization problem

🡪to solve this we have multiple types of selenium wait is there,

**3 types of waits**

**58.what is the disadvantage of explicit wait?**

**🡪** we cannot use one explicit wait for multiple web elements.

**59.how to handle webtable in selenium web driver?**

* Find how many rows
* Find columns
* Find specific data
* Print all the data
* Print specific data and their version number(like ex)

Example in selenium learning—eclipse

**60.how to handle date pickers?**

2 methods—

* Ex in eclipse
* Using select class

61.how to handle double click, right click and movetoElement?

Actions act=**new** Actions(*driver*);

act.moveToElement(desk).moveToElement(mac).click().perform();

62.how to handle slider?

Price range slider

WebElement minslider=driver.findEleemnt();

Syso(minslider.getLocation());

Syso(minslider.getSize());

Actions act=new Actions(driver);

Act.dragAndDrop(minslider, 100,0); 100-x axis,,, 0—y axis

WebElement maxslider=driver.findEleemnt();

Act.dragAndDrop(maxslider, -100,0); -100-x axis,,, 0—y axis

🡪using action class

🡪use drag and drop method

63.how to find location and size of the webelement?

🡪it will give you the location of the webelement(height)

🡪size—it will give you the size of the webelement(width)

64.what is the difference b/w actions & action?

* When you perform the mouse related operations we use **actions** class, it is a **predefined class** which is available in selenium
* **Action is an interface**

Where exactly we use actions and action

* Build will just create an action
* perform will complete the action

Actions act=new Actions(driver);

Action action=act.moveToElement(val).build(); --return the action

Action.perform();

65.what is the difference b/w build and perform?

🡪perform method internally calling the build method

🡪you can use .perform() / build().perform()

🡪if we use build().perform()🡪 here build method is calling 2 times

**66.how to perform keyboard actions in selenium?**

Using action class

//CTRL+ A

act.keyDown(Keys.***CONTROL***);

act.sendKeys("a");

act.keyUp(Keys.***CONTROL***);

act.perform();--example in eclipse

**67.how to capture screenshot of full page?**

TakesScreenshot ts=(TakesScreenshot)*driver*;

File src=ts.getScreenshotAs(OutputType.***FILE***);

File trg=**new** File(".\\screenshots\\homepage.png");

FileUtils.*copyFile*(src, trg);

**68.how to capture a screenshot of section of page?**

WebElement section=*driver*.findElement(By.*xpath*("//div[@class='product-grid home-page-product-grid']"));

src=section.getScreenshotAs(OutputType.***FILE***);

trg=**new** File(".\\screenshots\\feature.png");

FileUtils.*copyFile*(src, trg);

**69.how to capture a screenshot of element on a page?**

WebElement ele=*driver*.findElement(By.*xpath*("//img[@alt='nopCommerce demo store']"));

src=ele.getScreenshotAs(OutputType.***FILE***);

trg=**new** File(".\\screenshots\\logo.png");

FileUtils.*copyFile*(src, trg);

**70.why we need to typecast here?**

TakesScreenshot ts=(TakesScreenshot)*driver*;

* if we use ChromeDriver driver=new ChromeDriver() , we no need to typecasting here.
* Because ChromeDriver is implemented from Remote WebDriver, Remote WebDriver always have TakesScrrenshot and javascript executor interface.
* But if we using WebDriver, webdriver is an another interface, that’s why we are typecasting here.

71.how to capture tooltip of the webelement?

When you hover the element with your mouse, the title attribute is displayed in a little box next to the element, just like a native tooltip.

Ex: eclipse-selenium elarning

72.how to open a link in new tab?

String tab=Keys.*chord*(Keys.*CONTROL*,Keys.*ENTER*);

*driver*.findElement(By.*xpath*("(//a[text()='Get started'])[1]")).sendKeys(tab);

73.how to open a URL’s in multiple tabs and windows?

*driver*.get("https://www.facebook.com/login/");

*driver*.switchTo().newWindow(WindowType.*TAB*); //if window🡪.WINDOW

*driver*.get("https://twitter.com/i/flow/login?lang=en");

74.how to capture the size and location of the webelement?

System.***out***.println(fb.getLocation().getX());

System.***out***.println(fb.getLocation().getY());

Size:

System.***out***.println(fb.getSize().getWidth());

System.***out***.println(fb.getSize().getHeight());