**Selenium Interview Questions and Answers 1.What is automation testing and benefits?**

• Test automation is a process that makes use of automation testing tools to execute pre-scripted tests on applications, then compares the test results to the expected behavior and reports it to the testers.

**Benefits:**

• It executes tasks automatically.

• Increases effectiveness, efficiency and coverage of the software testing.

**2.Why should Selenium be selected as a test tool?**

• Selenium is an open source automation testing tool which is used to test web applications.

• Selenium testing tool consists of different set of tools in it like Selenium WebDriver, Selenium RC, Selenium IDE which has different features.

**3.What is Selenium? What are the different Selenium components?**

• Selenium is a portable software testing framework for web application.

• Selenium provides a playback tool for authorising tests without need to learn a test scripting languages.

**Different selenium components:**

• Selenium IDE

• Selenium RC

• Selenium Webdriver

• Selenium Grid

**4.What is the difference between Selenium RC and WebDriver? Selenium RC: ----------------**

• It does not make direct calls to the browser. There will be an intermediate server.

**Selenium Webdriver:**

• Faster

• Selenium Webdriver directly communicates with the browser.

**5.What is the latest version of Selenium jar file and how you will configure selenium jar file with eclipse? Latest version**

• 3.141.59

• Alpha version of Selenium 4 released.

• Selenium 4 is yet to get released officially.

**Configure jar file:**

• After including Selenium jar into our project,right click the jar and give "add to build path" for configuration.

**6.Is Google Chrome supported by Selenium IDE?**

• No,Google Chrome is not be supported by Selenium IDE.It supports only mozilla extentions.

**7.List some of the browsers supported by selenium**

• Firefox browser

• Chrome browser

• Internet Explorer

• safari browser

• Opera browser etc

**8.What is the Classname for the below browsers?**

**Browser**

**Class**

1. Firefox browser

FirefoxDriver

2. Chrome browser

ChromeDriver

3. IE

InternetExplorerDriver

4. Safari browser

SafariDriver

5. Opera browser

OperaDriver

**9.What is a WebDriver ? Whether WebDriver is class or interface?**

• Webdriver is a web automation framework that allows you to execute your tests againts different browser,not just firefox.

• Webdriver also enables you to use a programming language in creating your test script.

• Webdriver is a interface.

**10.What is the method name to launch the url?**

• get() method is used to lanuch the given url.

**11.What are the method names are available to get the title and url of the webpage?**

• getTitle()- used to get the title of the webpage.

• getCurrentUrl()-used to get the current url of the webpage.

**12.What is the difference between close() and quit()?**

**close():**

• It will close the current window only.

**quit():**

• It will close all the opened windows and browser will also be closed.

**13.What are the methods available in WebDriver?**

• close() • findElement() • findElements()

• get() • getTitle() • getCurrentUrl()

• manage() • quit() • switchTo()

**14.What is the use of WebDriver?**

• It is mainly used for providing the connection between the browser and local system. • It acts as a bridge.

**15.What are the locators available in selenium?**

• id • classname • name • Xpath • CSSselector • linkText • partialLinkText • tagname

**16.Which locator is fastest in selenium?**

• id is the fastest locator in selenium.

**17.How will you find the locators in selenium? write a code for it?**

• We can find the locator by using findElement() and findElements() methods.

**Code**

driverrefname.findElement(By.locator("values");

**18.Difference between findElement and FindElements?**

**findElement**

• It is used to find only one webElement.

• If no element is found it throws NoSuchElementException.

**findElements**

• It is used to find a list of webElements.

• findElements will return an empty list when no elements found

**19.What is the return type of findElement and findElements?**

• findElement - WebElement

• findElements - List<WebElement>

**20.In which class all the locator methods are available?**

\*By is an abstract class in which all the locator methods are available.

**21.What is the method used to insert value in a textbox?**

• sendKeys() method is used to insert value into a textbox.

**22.Write a code for inserting value in textbox?**

• WebElementRefname.sendKeys("values to be inserted");

**23.When multiple WebElements has same Xpath,how we can find it uniquely?**

\*When multiple WebElements has same Xpath,we can give index for that to uniquely locate a WebElement. Index starts from 1 to n

\*syntax: (xpath)[index]

**24.How will you click a button in webpage?**

\*By using click() method we can click a button in webpage.

**25.Whether WebElement is a interface or class?**

\*WebElement is an interface.

**26.What is mean by System.setProperty?**

• System is a class and setProperty is a method which accepts 2 arguments i.e key and path

• Key represents in which browser we are going to test the application

• path defines the location of driver executable file.

• It is used to set the class and path location of driver.

**27.What is Xpath? Why we are going for Xpath?**

• Xpath is one of the locator available in Selenium.

**Reason for going to Xpath: ---------------------------**

• For validating the locator.

• When id,classname,name is not present,we go for Xpath.

**28.What are the Types of Xpath?**

• Absolute Xpath • Relative Xpath

**29.What is the difference between Absolute Xpath and Realtive Xpath? Absolute Xpath:**

• It contains \

• Here we find path from root element <html> to desired WebElement tagname

**Relative Xpath:**

• It contains \\

• Here we find the path from the desired WebElement's tagname only

**30.What are the difference between / and // ?**

**\: ---** • It means absolute Xpath

• It is used to find path from root element <html> tagname to desired WebElement tagname **\\: ----**

• \*It means Relative Xpath \\

• \*Using this,we find the path from the desired WebElement's tagname only

**31.What is the difference between CSS selector and Xpath? Xpath: --------**

• Xpath syntax is complex compared to css selector

• Using Xpath,we can validate the locators.

• Xpath becomes inconsistent in some browsers

• We can traverse both forward and backward direction

**CSS selector:**

• CSS selector has simple syntax and it is faster than xpath.

• CSS selector traverse only in forward direction.

**32.What is the difference between Radio and CheckBox button? Radio button: -**

• For radio button we have to select atleast one option.

• For deselecting we have to select the another option present.

**Check box: ------------**

• In checkboxes,we can select more than one option.

• For deselecting we have to select the same option one more time.

**33.What is the syntax used to perform click operation using JavaScriptExecutor?**

• JavaScriptExecutor is an interface that helps to execute JavaScript through Selenium WebDriver.

**To perform click operation: ------------------------------**

• JavaScriptExecutor js=(JavaScriptExecutor)driverRef; • js.executeScript("arguments[0].click()",webElementRef);

**34.What are the Xpath functions available?**

• text() • contains() • starts-with()

**35.How will you select a female Radio Button in facebook signup and write a code for it ?**

\*WebElement radioGender=driverRef.findElement(By.Xpath ("//input[@value='1']"); radioGender.click();

**36.Baseclass method for clicking an WebElement**

\*Public static void btnClick(WebElement element){ element.click(); }

**37.What is mean by StaleElementReferenceException?**

• Stale Element means an old element or element that is no longer available in DOM.

• When the user refreshes the page or navigates into new page, DOM changes then the WebElement goes stale.

• If we try to reuse the WebElement that became stale we will get StaleElementReferenceException.

• To avoid this exception, we can implement POM framework.

**38.What is the purpose of debug?**

• It is used to find the error in the program code.

• It is the step by step verification.

• We can easily identify the step where the code getting exception.

**39.What are the steps to be debug?**

• Set the break point

• just right click-->debug us-->java application.

• Click the shortcut key F6 for stepOver(for moving each step)

**40.What are the ways to do debug?**

• Eclipse debugger.

• Firefox javaScript debugger.

• Dynamic debugging technique

• On line debugging tool.

**41.How to find xpath for any WebElement which contains no attributes?**

• By using xpath function text() and contains() //tagname[text()='textname'] //tagname[contains(text(),'partial text')]

**42.How to print a paragraph from webpage?**

• By using xpath function text(),contains() //tagname[contains(text(),'partial text')]

• By using getText() method we can get the text System.out.Println(webElemRef.getText();)

**43.What is the method used to get the text from the webpage?**

• getText() method is used to get the text from webpage.

**44.What is the purpose of getText() and getAttribute() ?**

• getText() method is used to get the text from webpage.

• getAttribute("attributename") method is used to get the attribute value of the given attribute

• getAttribute("value") also used to get the input what we have passed to a webElement

**45.What is the return type of getText() and getAttribute() ?**

• String is return type for both the methods.

**46.In which class/interface getText() and getAttribute() methods present ?**

• In WebElement interface ,getText() and getAttribute() methods are present

**47.What is the use of Thread.sleep(milliseconds)?**

• Thread.sleep(milliseconds) is used to make your program to wait for some defined time to avoid abnormal termination due to page loading issues.

**48.Whether it is possible to get the text from webpage without using getText()?**

• No,it is not possible to get the text from webpage without using getText() method.

**49.What is Mouse hover action?**

• To move the cursor over a desired WebElement.

• When we place cursor over some content in the webpage,it will display a list of content.For achieving those actions

• we can use Actions class.

**50.Write a code to perform MouseOverAction?** \*Actions refName= new Actions(driver refName); refName.moveToElement(WebElementrefName).perform();

**51.Whether Actions is a class or Interface?**

\*Actions is a class.

**52.How will you perform drag and drop operation?** \*Actions refName= new Actions(driver refName); refName.dragAndDrop(sourceWebElement,destWebElement).perform(); (or) \*Actions refName= new Actions(driver refName); refName.clickAndHold(WebElementRef).perform();

refName.release(WebElementRef).perform();

**53.what is the use of the Actions class?**

• Actions class is used to perform mouse operations such as mouse hover action,drag and drop,double click and

• right click operations

• This class will contain more methods for performing each of the mouse actions.

**54.What is the purpose of Drag and Drop?**

• In some webpages,the design will be like we need to drag and drop the content to the specified field.

• That we can achieve only through mouse.For mouse operations,we use Actions class in Selenium.

• dragAndDrop() method can be used to do that operation

**55.In which class dragAndDrop method is available?**

• Actions-class

**56.Why we use perform()?**

• The menu list disappear with in the fractions of seconds before Selenium identify the next submenu item and perform

• click action on it.So,it is better to use perform() method.Only then the desired mouse action can be performed.

**57.What is the purpose of moveToElement()? where it is used?**

• moveToElement() method will be used to move the cursor to the particular element.

**58.In which class moveToElement() is present?**

• Under Actions class moveToElement() is present.

**59.What are methods available in Actions class ?**

• moveToElement() • contextClick() • doubleClick() • dragAndDrop()

**60.What is the difference between moveToElement() & switchTo()?**

• moveToElement() will move to that particular element.

• switchTo() can be used to move the control to an alert,frame or window

**61.What is a Robot class?** • Robot class is a class which is used to perform the keyboard actions in java.

• It is present in java.awt package.

• It contain two methods keyPress() and keyRelease()

• It throws AWTException.

**62.What are the purpose of Robot class?**

• It is used to achieve keyboard operations while running a test script

**63.Write a code for Robot class?**

\*Robot refname = new Robot(); refname.keyPress(KeyEvent\_vk\_anykeyyouwant); refname.keyRelease(KeyEvent\_vk\_anykeyyouwant); vk-->virtual keyboard

**64.In which package Robot class is available?**

• java.awt

**65.What exception Robot class throws?**

• AWTException

**66.Which method is used to perform rightClick operation?**

• contextClick() method is used to perform rightClick.

**67.Which method is used to perform doubleClick?**

• doubleClick() method is used to perform doubleClick.

**68.How will take a screenshot of webpage?**

• By using getScreenShotAs() method from TakesScreenShot interface we can take the screenshot.

**69.Whether TakesScreenShot is a class or interface?**

• TakesScreenShot is a interface.

**70.What are the screenshot output type formats available?**

• OutputType.FILE • OutputType.BYTES • OutputType.BASE64

**71.What are the methods used for scrollUp and scrollDown ?**

• executeScript() method from JavaScriptExecutor is used to scrollup and scroll down.

• arguments[0].scrollIntoView(true)------argument needs to be passed for scroll down operation

• arguments[0].scrollIntoView(false)------argument needs to be passed for scroll up operation

**72.Whether JavaScriptExeceutor is a class or interface?**

• JavaScriptExeceutor is an interface.

**73.How can we can select the options from drop down ?**

• By using Select class,we can select the options from single select and multi select dropdown.

**74.Whether Select is a interface or class?**

Select is a class.

**75.Write a code to print all the options in DropDown?**

• getOptions() method is used to get all options in dropdown.

• getOptions() method will return List<WebElement> then iterating each WebElement and using getText() method we can print all the dropdown values.

**76.Can we select multiple values in DropDown?**

• Yes,we can select multiple values in a DropDown if it is a multiselect dropdown.

**77.How to check the dropdown is single select or multi select dropdown?**

\*isMultiple() method from Select class can be used to check whether the dropdown is single select or multi select dropdown

**78.What are the methods available in select class?**

• selectByValue(); • selectByVisibleText(); • selectByIndex();

• getOptions(); • getAllSelectedoptions(); • getFirstselectedoptions();

• isMultiple(); • deSelectByValue(); • deSelectByVisibleText();

• deSelectByIndex(); • deSelectAll()

**79.can we deselect the options in dropdown?** Yes, we can deselect the options in dropdown using the below methods.

• deSelectByValue(); • deSelectByVisibleText(); • deSelectByIndex(); • deSelectAll()

**80.Write a code to print selected options in dropdown?**

\*By using getAllSelectedoptions() method we can get all the selected WebElements. Select refName = new Select(); refName.getAllSelectedoptions();

\*getAllSelectedoptions() method will return List<WebElement> then iterating each WebElement and using getText() method we can print all the selected options from dropdown.

**81.Write the return type of all methods available in Select class?**

• selectByValue() -void

• selectByVisibleText() -void

• selectByIndex() -void

• getOptions() -List<WebElement>

• getAllSelectedoptions() -List<WebElement>

• getFirstselectedoption() -WebElement

• isMultiple() -boolean

• deSelectByValue() -void

• deSelectByVisibleText() -void

• deSelectAll() -void

• deSelectByIndex() -void

**82.What is the purpose of windows Handling?** \*Whenever we have multiple windows,to switch the program control between different windows, you can go for windows handling concept in Selenium.

We can perform switch the control between windows in 3 ways: • using window title • using window url • using window id

**83.Write a method used to get the window id of all the windows opened?** \*Set<String> refname= driverRefName.switchTo.getWindowsHandles();

**84.What are the different types of arguments you can pass in windows()?** • id • url • title But all the arguments are of String type.

**85.When you have multiple windows opened ,how to directly switch from parent window to 8 th child window?** List<String> allWindowsId=(List<String>)driver.getWindowHandles(); driver.SwitchTo().window(allWindowsId.get(7));

**86.What is meant by webtable?** • Table present in a webpage is called webtable. • It starts and ends with <table> and</table>. • The web table contain <tr> <td> <th> tags. • <tr></tr> represents table row • <td></td> represents table data • <th></th> represents table heading

**87.Write a code to display all the Column Name in table?** \*List<WebElement> rowRef=driver.findElements(By.tagname("tr")); WebElement firstRow=rowRef.get(0);

List<WebElement> colRef=firstRow.findElements(By.tagname("td")); for(int j=0;j<colRef.size();j++) { List<WebElement> col=colRef.get(j); String colText=col.getText(); System.out.println(colText); }

**88.Write a code to print all the data from a webtable?** List<WebElement> rowRef=driver.findElements(By.tagname("tr")); for(int i=o;i<ref.size();i++) { WebElement row=rowRef.get(i); List<WebElement> heaRef=row.findElements(By.tagname("th")); for(int j=0;j<heaRef.size();j++){ String head= heaRef.get(j).getText(); System.out.println(head); } List<WebElement> dataRef=row.findElements(By.tagname("td")); for(int j=0;j<colRef.size();j++) { List<WebElement> col=colRef.get(j); String colText=col.getText(); System.out.println(colText); }

}

**89.What is the use of wait?** \*Wait operation is used to make your script to wait the for some time till webpage is getting loaded completely to avoid exceptions due to page loading issues

**90.What are the types of wait?**

**\*Static wait =========** Even though the locator is found, it will wait for maximum time Thread.sleep(milliseconds);--->throws InterruptedException

**Eg:** Thread.sleep(5000);--->wait for 5 seconds **\*Dynamic wait: ===========** • \*If the locator is found within some seconds,it will not wait till the maximum time. • \*Implicit wait • \*Explicit wait

**91.What are the difference between implict wait and explict wait?**

**Implict wait:**

• \*It is applicable for all the locators in the webpage.

• \*driver.manage().timeouts().implicitlyWait(10, TimeUnit.SECONDS);

**Explict wait:**

• We can set ExplicitWait for particular locator/condition.

**92.What are the difference between getWindowHandle() and getWindowHandles()?**

• getWindowHandle() is used to get the parent window id.

• getWindowHandles() is used to get all the child windows id.

**93.Write a method to print the first selected option in drop down?**

• getFirstSelectedOption() method used to get the first selected option from drop down.

• It returns Single WebElement. • From the WebElement we can get the text using getText() method.

**94.What is mean by alert?**

• Alert is an information box displayed in the webpage to give some information to the user.

• When any Alert present in the webpage,without handling the alert user cannot do the next operation in the webpage.

• To handle the alert,we have Alert interface inteface in Selenium.

**95.What are the methods available in Alert?**

• accept() • dismiss()

• sendkeys()

**96.Whether Alert is a class or interface?** • \*Alert is an interface.

**97.Explain each word in WebDriver driver=new ChromeDriver();**

• WebDriver -->interface

• driver -->reference name

• new -->keyword

• ChromeDriver-->Class name

**98.What is the difference between defaultContent() and parentFrame() method?**

• \*defaultContent() returns the control to the main webpage.

• \*parentFrame() returns the control to the immediate parent frame of the current frame.

**99.What are the different types of arguments we can pass in frames?**

• WebElement • Name

• Id • Index

**100.What is the purpose of isDisplayed(),isSelected(),isEnabled()?**

• isDisplayed()-To check whether WebElement is hidden or not.

• isSelected() -To check whether checkbox ,radio box or dropdown value is selected or not.

• isEnabled() -To check whether button and textbox is in enabled state or not.

**101.What is mean by Fluent Wait?**

• Each FluentWait instance defines the maximum amount of time to wait for a condition, as well as the frequency with which to check the condition.

• The user may configure the wait to ignore specific types of exceptions while waiting, such as NoSuchElementExceptions when searching for an element on the page.

**102.What is mean by following,sibling,child,parent,preceding in Xpath?**

**Following:**

\*denotes the immediate next element of the current node.

**sibling**

• \*denotes the following siblings of the context node. Siblings are at the same level of the current node .

**Parent:**

• \*denotes the parent of the current node.

**Child :**

• \*denotes the child of the current node.

**Preceding:**

• \*denotes the preceding element of the current node.

**103.What is the use of getCssValue() method?**

To get the value of a given CSS property of a WebElement such as font color,alignment,size etc

**104.What is the difference between partial link text and link text? LinkText: -----------**

• In linktext we take all the text from a link(link must be a hyperlink)

• Example: WebElement web = driver.findElement(By.linkText("Product Category”));

**PartialLinkText:**

• In the PartialLinkText we take partial text from a link's text(link must be a hyperlink)

• Example: WebElement web = driver.findElement(By.partialLinkText("Category”));

**105.List some of the interfaces available in selenium?**

• WebDriver • JavascriptExecutor • Alert • TakeScreenShot

**106.What is a broken link and how do you find it?**

• Broken links are links or URLs that are not reachable.

**For checking the broken links, you will need to do the following steps.**

• Collect all the links in the web page based on <a> tag.

• Send HTTP request for the link and read HTTP response code.

• Find out whether the link is valid or broken based on HTTP response code.

• Repeat this for all the links captured.

**107.What is framework, why we go for framework?**

• Famework is a code structure that helps to make code maintenance easy.

• Without frameworks, we will place the “code” as well as “data” in the same place which is neither re-usable nor readable.

• Using Frameworks, produce beneficial outcomes like increased code re-usage, higher portability, reduced script maintenance cost, higher code readability, etc.

**108.What is the difference between get() and navigate()?**

• If we use get() method, it is used to launch the given url and get() method will wait till the page loads completely

• If we use navigate() method, we can perform back(), refresh() and forword() action since it stores browser cookies and navigate() method will not wait till the page loads completely.

**Core Java Interview Questions and Answers**

**1.What is java?**

• Java is a simple and most widely used programing language.

• Java is fast,reliable and secure

**2.Why are we go for java?**

• Freeware and opensource

• It is platform independent i.e program written in one operating system is capable of running in all

other operating systems due to bytecode concept.

• It runs multiple application at a time.

**3.What are the main features of java?**

**\*Java has more features,**

• 1. Platform independent

• 2. Open source

• 3. Multithreading

• 4. More secure

• 5. Portable

**4.What is platform independent?**

• During the compilation the java program is converted into byte code(not machine specific).

• Bytecode can be runned by jvm of any platform.

• So code developed in one platform is capable of running in all other platform.

**5.What is mean by Open Source?**

• A program in which source code is available to the general public for use and/or modification

from its original design at free of cost is called open source.

**6.What are IDE/tools availabe in market for java?**

• Notepad

• Netbeans

• Eclipse

• JDeveloper(oracle)

• RAD(IBM)

**7.What are difference between JDK,JVM,JRE?**

**JDK:**

• Java Development Kit.

• If we want to create any applications in java JDK have to be installed in our system.

• JDK versions: 1.0 to 1.14.

**JRE:**

• Java Runtime Environment.

• It is a pre-defined class files (i.e.) library files.

**JVM:**

• Java Virtual Machine.

• It is mainly used to allocate the memory and compiling.

**8.What is mean by oops?**

• OOPS is Object Oriented Programming Structure.

• OOPS is a method of implementation in which programs are organised as collection of objects,

class and methods.

**9.What are the coding Standard used in java?**

• Pascal notation: Every word's first letter ,must be a capital letter

• Example:GreensTechnology

• Camel notation: First word's first letter should be a small letter, all the other suceeding word's

first letter should be a capital letter.

• Example:greensTechnology

**10.What is mean by class,method,object?**

**Class:**

• Class is a collection of objects and methods

• Class contains attributes(variables and methods) that are common to all the objects created in a

class.

**Method:**

• Method defines the set of action to be performed.

**Object:**

• Object is the run time memory allocation.

• Using object we call any methods.

**11.What is mean by Encapsulation?**

• It is the structure of creating folders.

• It wraps the data and code acting on data together in to a single unit.

• Example of encapsulation is POJO class.

• It is otherwise called Data hiding.

**12.What are the datatypes used in java?**

• byte

• short

• int

• long

• float

• double

• boolean

• char

• String

**13.What is byte size and range of int datatypes?**

• Size of byte is 1 byte (8 bit)

• Range formula =[-2^(n-1)] to [(2^(n-1))-1] for int n=32

**14.What is mean by Wrapper class?**

• Classes of data types is called wrapper class.

• It is used to convert any data type into an object.

• All classes and wrapper classes default value is null.

**15.What is the main use of Scanner class?**

• To get the inputs from the user at the run time.

**16.What are the methods available in Scanner Class?**

• nextByte();

• nextShort();

• nextInt();

• nextLong();

• nextFloat();

• nextDouble();

• next().charAt(0);

• next();

• nextLine();

• nextBoolean();

**17.What is mean by inheritance?**

• Accessing one class Properties in another class without multiple object creation.

• It avoids time and memory wastage.

• It ensures code reusability

**18.What are the ways to access the methods /data from another class?**

• We can access the another class methods either by creating object or using extends keyword.

**19.What is mean by polymorphism?**

• Poly-many.

• Morphism-forms.

• Taking more than one forms is called polymorphism or one task implemented in many ways.

**20.What are the difference between method overloading and overriding?**

**Method overloading(static binding/compile time polymorphism):**

When we have multiple methods with same method name but differs only based on its datatype,datatype count and order.

• Class-name

• Method-same

• Argument-differ based on datatype,order,number

**Method overriding(dynamic binding/run time polymorphism):**

When you are not satisfied with the logic of your super class method,you can create the same method(with exact same method name) in your sub-class and you can write your required business logic.When you create object for sub-class,sub class method only will get executed.so here child class method overriding parent class method. • Class name-differ(using extends) • Method-same • Argument-same

**21.What are the types of inheritance?**

• Single Inheritance

• Multilevel Inheritance

• Multiple Inheritance

• Hybrid Inheritance

• Hierarchical Inheritance

**22.Why multiple inheritance is not supported in java?**

• Compilation error/syntax error-After extends keyword we can mention only one classname( , not allowed) • Priority problem-When multiple parent classes has methods with same name and arguments,compiler will not know which method should be called.

**23.What are the difference between Multiple and Multilevel inheritance?**

**Multiple inheritance:**

• More than one parent class directly supporting into same child class.

• Multiple inheritance not supported in java due to Compilation problem and priority problem

• We have achieve multiple inheritance in java through interface.

**Multilevel inheritance:**

• More than one parent class supporting into one child class in tree level structure.

• It is supported in java

**24.What is mean by access specifier?**

• It defines the scope or level of access for variables,methods and classes

**25.What are the difference between public and protected?**

**Public: -------**

• It is global level access( same package + different package).

**Protected: ------------**

• can access Inside package ( object creation + extends )

**26.What is mean by Abstraction?**

• Hiding the implementation part or business logic is called abstraction.

**27.What are the types of Abstraction?**

• 1. Partially abstraction(using abstract class).

• 2. Fully abstraction(using interface).

**28.Can we create Object for Abstract class?**

• No, we cant create object for abstract class.

**29.What is mean by Interface?**

• It will support only abstract method(without business logic), won't support non abstract method(method with business logic)

• In interface "public abstract" is default.

• using "implements" keyword we can implement the interface in a class where we can write the

business logic for all

unimplemented methods.

**30.What are the difference between Abstract and Interface?**

**Abstract class:**

**-----------------**

• Using Abstract class,we can acheive partial abstraction.

• It support both abstract method and non-abstract method.

• using "extends" keyword you can inherit an abstract class.

• For any abstract method we need to mention "public abstract".

**Interface:**

**-----------**

• Using interface,we can acheive full abstraction.

• It supports only abstract method.

• It is using "implements" keyword.

• "public Abstract" is default, no need to mention it explicitly.

**31.What is mean by String?**

• Collection of characters or words enclosed within double quotes is called as String.

• String is a class in java

• String is index based

• Example : "greenstechnology".

**32.What are the method available in string?**

• equals();

• equalsignorecase();

• contains();

• split();

• toUpperCase();

• toLowerCase();

• subString();

• isEmpty();

• identifyHashCode();

• startsWith();

• endsWith();

• CompareTo();

• charAt();

• indexOf();

• lastIndexOf();

• replace();

**33.What is mean by constructor?**

• Constructor is a special method which is called by default when object is created for that

particular class.(implicit call)

• Class name and constructor name must be same.

• It doesn't have any return type.

• It supports method overloading but won't support method overriding.

• purpose of constructor:It is used to initialise the values to variables.

**34.Explain the types of constructor?**

• Parameterized constructor

• Non parameterized constructor

**35.Do constructors have any return type?**

• No,constructor can't have any return type.

**36.Write a syntax for creating constructor?**

Access specifier classname(){

}

**37.What are the rules for defining a constructor?**

• Class name and constructor name must be same.

• It should not have any return type.

**38.Why a return type is not allowed for constructor?**

• constructor is not directly called by your code, its called by memory allocation and object

initialisation in the run time.

• Its return value is opaque to the user so we cant mention it.

**39.Can we declare constructor as 'private'?**

• Yes,we can declare constructor as private.

**40.Why a compiler given constructor is called as default constructor?**

• If we didnt create a constructor explictly it will take the default constructor.

**41.What is constructor chaining and how can it be achieved in Java?**

• The process of calling one constructor from another constructor with respect to current object is

called constructor chaining.

• By using this() and super() methods we can achieve constructor chaining.

**42.What are the difference between this() and super()?**

• this() is used to call class level constructor.

• super() is used to call the parent class constructor.

**43.What is the super class of all java?**

• Object is the super class of all classes in java.

**44.What are the types of variable?**

• Local level variable.

• Global/Class level variable.

• Static variable.

• Final variable

**45.What is meant by local variable,instance variable,class/static variable?**

• Static Variable-It is shared by all the objects in the class.

• Local Variable-A variable declared inside a method/block.Level of access:only inside the block

• Class variable-A variable declared outside all methods but inside class. Level of access is only with

in object

**46.What is mean by static keyword in java?**

• The static keyword is mainly used for memory management.

• It is used to share the same variable or method by objects of given class.

**47.Can we override static method in java?**

• No,we can't override the static method because it is part of a class rather than an object.

**48.Can we overload static method in java?**

• Yes, we can overload the static method in java.

**49.What is mean by static variable?**

• When a variable is declared as static,then a single copy of variable is created and shared among all object at class level.

• Static variable are essentially global variable.

• All the instance of the class share the same static variable.

**50.What is mean by static method?**

• When a method is declared as static,we need not create object to call the paticular method.We can call as Classname.methodname() • Static method in java belong to the class(not to an object).

• They use no instance variables and will usually take the input from the parameters and perform action on it,then return some result.

**51.What is mean by final keyword and what's happend when we declare final as in class,method,variable?**

• Final is a non access modifier applicable to a variable, method or a class.

• When a variable is declared with final keyword,its value can't be modified.

• When a method is declared as final we can prevent method overriding.

• When a class is declared as final we can prevent inheritance.

**52.What is difference between final and finally keyword? Final: -----**

• Final varaible can't be modified.

• Final method can't be overrided.

• Final class can't be inherited.

**Finally: --------**

• Code given inside finally block will always get executed whether exception occurs or not.

**53.Where local,static and class variables stores in jvm?**

• Static variables are stored in the permGen section of heap memory.

• Local variables are stored in stack.

• Class variables are stored in heap memory.

**54.What is Exception?**

• Exception is an unexpected event which when occurs in a program,your program will terminate

abnormally.

• We can avoid this abnormal termination using exception handling

mechanisms(try,catch,finally,throw,throws)

**55.Explain about types of Expection?**

• Unchecked exception(Run time exception)

• Checked exception(Compile time exception)

**56.What are the difference between checked expection and unchecked expection?**

**Unchecked exception:**

**-------------------------**

• It will occur at the Run time.

**Checked exception:**

• Checked exception will occur at the Compile time.

**57.What is the super class for Exception and Error?**

• Throwable

• Exception

**58.Can we have try block without catch block?**

• Yes we can have try block without catch block.But in that case finally block must be

present.(There will be no syntax error)

• Possible but we will not able to handle the exception without catch block.

**59.Can we write multiple catch blocks under single try block?**

• Yes,we write multiple catch blocks under single try block.

**60.How to write user defined exception or custom exception in java?**

First customised exception must come under Exception class.

access\_specifier method\_name() throws customException {

throw new customException();

}

**61.What are the different ways to print exception message on console?**

• ref.printStackTrace() method is used to print the exception message in the console.

**62.What are the differences between final finally and finalize in java?**

**Final:**

• A final class variable whose value cannot be changed.

• A final method is declared in class level, they cannot be inherited.

• A class declared as final can't be inherited.

**Finally:**

• It’s a block of statement that definitely executes after the try catch block.

• Exception occurs or not,finally block always get executed.

**Finalize:**

• It will clean up unused memory space.

**63.What are the differences between throw and throws?**

**Throw:**

• Throw is a keyword, using which we can throw any any exception.This keyword always given

inside the method.

• At a time we can throw only one exception using throw keyword.

**Throws:**

• Throws is a keyword, it is used to handle the exception(given in method level).

• we can handle more than one exception using throws keyword.

**64.Explain Java Exception Hierarchy?**

**Exception**

Unchecked exception(Run time exception)

Checked exception(Compile time exception)

ArithmeticException IOException

NullPointerException SQLException

InputMismatchException FileNotFoundException

ArrayIndexOutOfBoundExcepion ClassNotFoundException

StringIndexOutOfBoundExcepion

IndexOutOfBoundExcepion

NumberFormatException

**65.What is mean by throw and throws?**

• Throw is a keyword,used to explicitly throw an exception

• Throws is a keyword, it is used to handle the exceptions(in method level).

**66.What is mean by array?**

• Storing multiple values of similar datatype in a single variable.

• It is index based one.

**67.What are the advantages and disadvantages of array?**

**Advantage:**

• In a single variable we can store multiple values.

**Disadvantages: ----------------**

• It support only similar data types.

• Size fixed at compile time.

• Memory wastage is high.

**68.Different ways to intialise array?**

• Datatype refName[]= new Datatype[size];

• Datatype[] refname={ value1,value2,....};

**69.Can we change the memory size of array after intialization?**

• No,we can't change the memory size of array after intialization.

**70.What is collection ?**

• It will support storage of multiple values with dissimilar data types.

• It is dynamic memory allocation.

• No memory wastage like array.

**71.What is the difference between ArrayList and Vector? ArrayList: ----------**

• Asynchronized

• It is not a thread safe

**Vector:**

• Synchronized

• Thread safe

**72.What is the difference between ArrayList and LinkedList?**

**LinkedList**

• Insertion and deletion is a best one.

• Searching/retrieving is a worst.

• It’s makes performance issue.

**ArrayList:**

• In Arraylist retrieve/searching is a best one

• In ArrayList deletion and insertion is a worst one because if we delete/insert one index value after all the index move to forward/backward.

• It makes performance issue.

**73.Difference between Collection and Collections**

• Collection-Collection is an interface under which we have list,set,queue

• Collections-is an utility class in which we have lots of predefined methods which we can apply over collection objects. Eg:Collections.min(),Collections.max(),Collections.sort()

**74.Describe the Collections type hierarchy ?**

**What are the main interfaces ?**

**Collection:**

• List

• Set Map----doesnt come under collection,it is a separate interface in java

**Hierarchy: -----------**

**List: ----** • ArrayList • LinkedList • Vector

**Set: ----**

• Hashset • LinkedHashSet • Treeset

**Map: ----** • HashMap • LinkedHashMap • Hashtable • TreeMap • ConcurrentHahMap

**75.What is difference between set and List?**

**Set: ----** • It is a value based one.

• It prints in random order.

• It won't allow duplicates.

**List: -----**

• It is a Index based one.

• It prints in insertion order.

• It allow duplicates.

**76.What is the difference between HashSet and TreeSet ? HashSet: ---------**

• It prints in random order. **TreeSet: ---------**

• Treeset prints in ascending order

**77.How to convert List into Set?**

• By addAll() we can convert List into set.(all the elements in list will get added to set)

**78.What is map?** • It is key and value pair. • Here key+value is one entry. • Key ignore the duplicate value and value allow the duplicates.

**79.What is difference between Hash Map and Hash Table?**

**HashMap: ----------**

• Key allows single null.

• Asynchronised(not thread safe).

**Hashtable: ----------**

• Key and value won't allow null.

• Synchronised(thread safe).

**80.What is difference between set and Map?**

**Set: ----** • It is a value based one.

• It print in random order.

• It won't allow duplicates.

**Map: ----**

• It is key and value pair.

• Here key+value is one entry.

• Key ignore the duplicate value and value allow the duplicates.

**81.Can we iterator the list using normal for loop?**

• Yes,we can iterate the list using both normal and enhanced for loop.

**82.What are the methods available in list But not in set?**

• indexOf();

• get();

• lastIndexOf();

**83.Explain about user defined Map?**

• It is key and value pair.

• Here key+value is one entry.

• Key ignore the duplicate value and value allow the duplicates.

**84.How much null allows in below maps:**

• HashMap :k?,v?

• LinkedHashMap:k?,v?

• TreeMap :k?,v?

• HashTable :k?,v?

• HashMap :k-1 null,v- n null

• LinkedHashMap:k-1 null,v- n null

• TreeMap :k-ignore null,v- allow null

• HashTable :k-ignore null,v- ignore null

**85.How to Iterate Map?**

• We can iterate the map by using entrySet() method.

**86.What is the return type of entrySet?**

• Set<Entry<key,value>>

**87.Write the methods to get the key only and value only?**

• For key only keySet() method is used.

• For value only values() method is used.

**88.What is mean by File? In which package it is available?**

• File is a class and it is used to achieve the file operation.

• It is available in java.io package.

**89.What are the methods available in File ?**

• mkdir(); • mkdirs(); • list(); • createNewFile(); • isDirectory(); • isFile(); • isHidden();

**90.While creating a file if we not mention the format then under which format it will save the file?**

• If we do not mention the file format it will automatically take format as file.

**91.What are the difference between append and updating the file?**

**For updating the file: ---------------------** It will replace the old contents of the file.

**For appending the file:**

It will add the contents at the end of the file.

**92.What is mean by Enumerator,Iteratorand List Iterator?**

**Enumeration: --------------**

• It is an interface used to iterate only legacy class or interface.

• Only iterates in forward direction

**Iterator: ---------**

• It is an interface used to iterate the collection objects

• Only iterates in forward direction

**List Iterator: --------------**

• It is an interface used for iterating list type classes

• iterates in forward as well as backward direction

**93.Difference between Enumurator,Iterator and List Iterator?**

**Enumerator:**

• applicable only for legacy class and interface

• no remove method is available.

• no Backward direction is possible

**Iterator**

• It is an Interface used to iterate the collection objects

• remove method is available.

• no Backward direction is possible.

**ListIterator:**

• It is an interface used for iterating list type classes

• remove method is available.

• Backward direction is possible.

**94.What are the methods available in Enumerator,Iteratorand List Iterator? Enumerator Methods**

• hasMoreElements();

• nextElement();

**Iterator Methods: ----------------**

• hasNext();

• next();

• remove();

**ListIterator Methods:**

**---------------------**

• hasNext();

• next();

• remove();

• hasPrevious();

• previous();

**95.Explain JDBC connection steps?**

• Import JDBC packages.

• Load and register the JDBC driver.

• Open a connection to the database.

• Create a statement object to perform a query.

• Execute the statement object and return a query resultset.

• Process the resultset.

• Close the resultset and statement objects.

• Close the connection.

**96.What are control statement?**

• Statement which has control over the loop or program is called control statements.

• Example:if,if else,for,while,dowhile etc

**97.Different control statements available in java**

**Break:**

• It is used to terminate the loop

**Continue:**

• It is used to skip the current iteration.

**while and do while ---------- While:** ------

• It is entry check loop.

**Do While: ---------** • It is a exit check loop.

**if and if else ===============**

**if –**

• executes only when the condition becomes true.

**if else --------**

• executes the else part when the condition becomes false and executes if part when condition becomes true.

**98.Difference between immutable and mutable string**

**immutable and mutable string Immutable string: --**

• Once created,we cant change the value in memory

• In concatenation, it will create new memory

**mutable string: ----------------**

• After creation,we can modify the value in reference(memory)

• In concetanation, its takes same memory

**99.Difference between Remove all() and Retain all**

**Remove all() and Retain all**

**removeAll():**

• removeAll() is a method , it is used to compare the 2 lists and remove all the common values

**retainAll():**

• retainAll() is a method, it is used to compare both lists and retains only the common values

**100.Difference between Literal String and Non literal string**

**Literal String and Non literal string**

**Literal String:**

• In case of String duplicates,it will share the same memory address

• Its stored inside the heap memory(string pool or string constant).

• It share the memory if same value (duplicate value)

**Non literal string:**

• Even incase of String duplicates,it will have different memory address.

• It’s stored in the heap memory.

• Its create a new memory every time even if it is a duplicate value(same value)

**101.Difference between Heap and stack memory**

**Heap and stack memory**

**Heap memory:**

• Heap is used for dynamic memory allocation.

• Memory access is slow.

**Static memory:**

• Stack is used for static memory allocation.

• Variables allocated on the stack are stored directly to the memory and access will be very fast.

**102.What is the default Package in java?**

• java.lang

**103.What are the difference between equals() & hashcode()?**

**equals:**

• Used to compare the two string.

**Hashcode:**

• Used to return the address where it stored.

**104.How can we make Array list As a synchronized?**

• collections.SynchronisedList(refName of array);