SDET INTERVIEW PREPERATION

QUESTIONS AND ANSWERS

Ilyas Tunc

Tell me about yourself (Main)(1)?

- At the beginning I would like to thank for the opportunity of having with this video call. Appreciate for your time.
- As you see in my resume I am Ilyas. I am full stack QA Engineer. I have been in IT industry for more than 2 years. Before that I completed my master and PHD on in the field of administration. Then I interested in testing and started as manual tester. While doing that I learned Java and I have upgraded to automated testing and specialized in automation.
- Until this time I worked on projects whose domain were transportation and cloud computing. In my career I am comfortable to say I have successfully been testing web-based applications. I am good at UI and Database testing and familiar with API testing. Also I have sufficient knowledge about mobile testing applications.
- As operating system I have been using Windows. But I am familiar with ios and linux.
- My main programming language is Java and writing my codes in that language. I also know Gherkin and SQL. I have some knowledge about JavaScript, CSS and HTML. I am also a little familiar with Python as well.
- I am building my projects with Maven. My main IDE is IntelliJ but I have also worked with Eclipse, Visual Studio, SQL Developer and Postman.
- I set up my Automation framework from scratch. My current testing framework is composed of Java, Selenium and Cucumber. For designing I use Page Object Model which support Behavior Driven Development and Data Driven Testing. My framework also support Database Testing with using JDBC.
- For test automation I mainly use Selenium Webdriver and the tools Junit and TestNG. Generally I prefer open source tools.

Tell me about yourself (Main)(2)?

- For collaboration I use Git and GitHub as version control system. I also use Jenkins for continuous integration, deployment and test scheduling. As a project management and bug tracking tool I prefer to use Jira Xray.
- I have strong understanding of SDLC. In my career I have worked in Agile work environment. So I have experience with all ceremonies and meetings in Agile-Scrum. I can confidently say I am Agile. I am also familiar with Kanban.
- I have good knowledge in different testing types including like Functional, Front-End, Back-End and End-to-End testing. In my current company I have responsible with Smoke Test and Regression Test. These are important part of my job.
- For my personality, I can say I am positive, quick learner and adaptable person for changing situations. I am always careful about deadlines. In a team I am eager to help my teammates. I have open character to learn new technologies , tools.
- I believe I can much satisfy the expectations of this position.

Tell me about yourself (Projects)?

- The project that I worked on lately is Helioteca.
- The domain is clouding technology.
- The region covers all over the US states and also includes Canada.
- To object of project is creating online storages to users and enabling to add or remove files, photos etc .

Tell me about yourself (Daily Activities)?

- In my daily routine at morning first I check result of my Smoke Test o make sure that environment is running properly and the application is stable for the day. My smoke suit includes about 40 test cases.
- For that I check my emails to verify any sent mail by Jenkins to see any fail in my test cases. If something goes wrong, I send out an email to my team so they can take care of it asap before everyone comes to work, to reach maximum productivity.
- Then I check Jira board to see any task assigned to me.
- Then I attend daily stand-up at 9:30. We are talking about what we did yesterday, what we will do today and are there any impediments in our way. This meeting takes about 15 minutes.
- After that, I start automating test cases from regression suit. And also, I automate test cases from sprint backlog after doing manually. Towards to end of our sprint we are finishing our automation, test execution, reporting. and preparing Sprint Demo.
- We start our sprint on Mondays. We make our sprint planning at 3pm. At the end of sprint on Thursday we do Demo at 2pm and after this we arrange our Retro meeting at 4pm
- Before each release I run regression suit. If any release blockers assign it to developers.
- After regression suit if all test case pass I kick off them to developers
- Also, once a week, we have Code Review meetings, to review the code. this is really helpful for us.

Tell me about yourself (Responsibilities)?

- I work in testing web UI part in my company. I am working as functional tester. My main responsibilities are regression and smoke test.
- I attend featured-based grooming meeting, daily meeting, retro and demo meeting.
- I write test cases and execute them.
- We are in 32. sprint. We are working on chart functionality.

Tell me about yourself (framework)?

- I would like to answer this question in three steps. First I will tell the tools I use, then mention about my design and finally count the benefits of my framework. I am writing my framework using Java language. As a building tool I am using Maven. Thru maven I can manage dependencies and run my tests from terminal. To automate an interact with browser I am using Selenium Webdriver. For the assertions using junit. For reporting using Cucumber reports. Also using IntelliJ as IDE
- In designing part I am using POM structure in order to keep my code organized and clean. So, I basically create a separate Java class for each page of my application where I store all the elements of that page as well as related methods. I have separate classes where I keep my implemented step definitions. Also, for each scenario(positive or negative) I create Cucumber feature files where I used GHERKIN language in order to describe my test scenarios, by doing that I'm making sure that my test cases are understandable for each member of my team, even for those who aren't technically strong. I am creating another separate package for my utilities where I would store all my drivers, page files or utilities that I could possibly run. Reporting is done in cucumber and Jenkins. Actually, Jenkins is using Json file generated by the cucumber each time the test is run in Jenkins. Of course, all my code is stored in Github so I can share it with my team members when necessary. In my framework, I can also perform Database testing through JDBC driver. I am using JIRA as project management and bug tracking tool.Last thing that I would like to add is that I'm using Jenkins to run my smoke and regression tests by taking the code from Github (code repo).
- Finally my framework makes it easy to maintain code. And it is strong in terms of reusability. Also gain advantage to work with multi browser. I think the most powerful side of my framework is that it supports database, API and UI testing.

Tell me about yourself (about my framework)?

- In my last project, in order to design my framework, I used different management and automation tools as Eclipse IDE / IntelliJ, Selenium WebDriver for browser automation, Maven for dependencies, Cucumber and Jenkins.
- I also used POM structure in order to keep my code organized and clean. So, I basically created a separate Java class for each page of my application where I store all the elements of that page as well as related methods. I have separate classes where I keep my implemented step definitions. Also, for each scenario(positive or negative) I created Cucumber feature files where I used GHERKIN language in order to describe my test scenarios, by doing that I'm making sure that my test cases are understandable for each member of my team, even for those who aren't technically strong.
- I created another separate package for my utilities where I would store all my drivers, page files or utilities that I could possibly run.
- Reporting is done in cucumber and Jenkins. Actually, Jenkins is using Json file generated by the cucumber each time the test is run in Jenkins. Of course, all my code is stored in GIT so I can share it with my team members when necessary. Last thing that I would like to add is that I'm using Jenkins to run my smoke and regression tests by taking the code from GIT(Version Control).

Tell me about yourself? (Nadir's perspective)

- intro /thank for the opportunity- how many years manual / automation
- industry - health, logistic, finance
- application - web application, UI, data base (back end), client server app (API), mobile applications
- operating systems - windows, ios, unix/linux
- languages - java, javascript, sql,python
- build -maven, ant, gradle
- IDEs - IntelliJ, Eclipse, PyCharm, VSCode, Gherkin
- test framework/lib/tools-testNG, junit, cucumber, Selenium
- framework design/pattern-pom / BDD cucumber framework
- version control - git (gitHub, gitLab and bitbucket), svn
- CI/CD - jenkins
- methodologies- Agile with Scrum
- testing types - Smoke, Regression, Front End, Back End, End to End
- personality-quick learner etc.

Describe a difficult challenge that you overcame. Why was it challenging and how did you overcome it?

- I think, in my career the biggest challenge I face is that. The company that I worked for like a start up. There were 3 developers. I was hired as unique tester. So I had to create all framework by myself from the scratch. I wrote all test cases and implementations and definitions. Even I set up jenkins from beginning. I worked hard for this. On the other hand as another challenge deadline was close. I had to work at evenings. But finally we finished the product. The project went to prod. As a team we were happy for accomplishment. The other issue was about communication with one developer. He was young but very smart guy. When I found a bug, he was getting nervous and resisting to accept it . I was really struggling to calm down and convinced him. We were asking to BA for clarification. But in Sprint Retro we are started to talk more about the requirement clarification and solved the problem perfectly. Now he is one of my best friend.

What do you do when the developer denied the defect you just found?

- Actually this is a common occurrence that every tester might encounter. When I face something like this, first thing I do is that I run my test case again.
- If I get same result then I test it manually. If the result shows that is defect I just ask my tester colleague whether if he is agree with me.
- After he support my defect I go to talk with developer and try to convince him this is a defect according to acceptance criteria and user story. I just express my perspective friendly to him. I present him extra evidences like video recordings, screenshots, detailed steps etc.
- If he continues to deny then I go team lead first and take his opinions. If he is agree with me we arrange meeting with Product Owner and talk about the issue.
- As a final decision Product Owner decides whether this is a defect or not.

Please explain how you are implementing AGILE in your current project?

- Our sprints last 2 weeks and we have release every 3 sprints
- We have 7 people in my team. 3 developers (Ziya, Şenol,Emre), 1 automation (Me) and 1 functional testers(Kadir),
- also 1 SM (Mesut) and 1 PO (Selim).
- We start a sprint with Sprint Planning Meeting and
    - we discuss about the team's priority features and product backlog items and
    - we learn the part of the application which we are going to developed.
    - This meeting is held every sprint and lasts for almost 1 hour. We get general idea than we do Sprint Grooming meeting for giving some estimates for the tasks.
- After sprint starts, we do Daily Standup Meeting everyday morning and we discuss what did we do yesterday, what will we do today and is there any blocker.
- End of the sprint, usually we do Sprint Demo/Review Meeting . It is just to show customer what we build sprint (PO can put feedback)
- After Sprint Demo, we do Sprint Retrospective Meeting . In sprint Retro, we talk about what was good in last sprint, what kind of mistakes we made.

Are JavaScript and Java the same?

- Java is an OOP programming language while JavaScript is an OOP scripting language.

- Java creates applications that run in a virtual machine or browser while JavaScript code is run on a browser only.

- Java code needs to be compiled and turned to bytecode, while JavaScript code is a directly interpreted language (JIT compiled).

- They require different plug-ins.

What is the method?

- Collection of statements that are grouped together to perform an operation.

- A method is a set of code which is referred to by name and can be called (invoked) at any point in a program simply by utilizing the method's name (rules apply).

What is the constructor?

• A constructor in Java is a special method that is used to instantiate objects. Usually a constructor is called when an object is created by using “new” keyword.

• Each time an object is created using new() keyword at least one constructor (it could be default constructor) is invoked to assign initial values to the data members of the same class.

What's abstraction? Please briefly explain what are the differences between abstract classes and interfaces?

- In OOP, abstraction is a process of hiding the implementation details from the user, only the functionality will be provided to the user. In other words, the user will have the information on what the object does instead of how it does it.
- In Java, abstraction is achieved using Abstract classes and interfaces.

- For example: when you log in to your bank account online, you enter your user-id and password and press the login. What happens then, how the input data sent to the server, how it gets verified are all abstracted away from you.

- Main difference is, methods of a Java interface are implicitly abstract and cannot have implementations. A Java abstract class can have instance methods that implements a default behavior.

- A class that is declared with “abstract” keyword, is known as abstract class. It can have abstract and non--abstract methods.

- An Interface is a blueprint of a class. It is a template and it is declared with interface keyword. It can have abstract methods, default methods, static methods and public final static variables

- When we want to use Abstract class, we use “extend” keyword. When we want to use Interface, we use “implement” keyword.

- Abstract class and interface both are used to achieve abstraction Both cannot be instantiated; we cannot create an object.

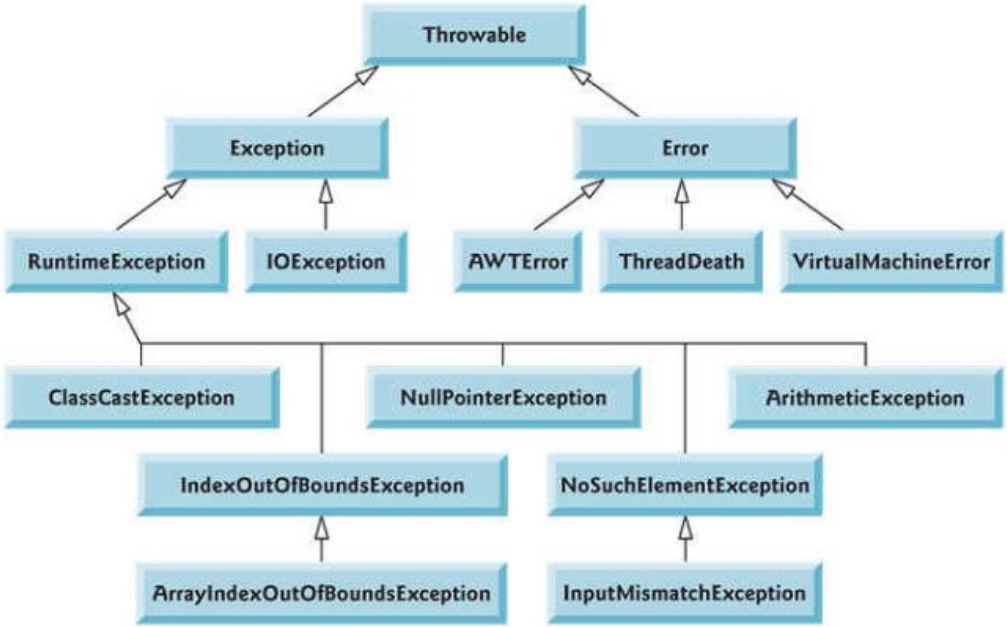
Do you know JavaScript?

• I can get the job done with the simple JavaScript comments. I don't know deep knowledge but I used before scrolling up/down, scrolling to elements, clicking some certain elements.

- `"arguments[0].click();"//clicking`
- `"arguments[0].setAttribute('value'"+text+"')" //typing`
- `"window.scrollBy(0,250)" //scrolling down`
- `"window.scrollBy(0,-250)" //scrolling up`
- `"arguments[0].scrollIntoView(true);"//scrolling to element`

Can you tell some Exception Classes that you are familiar with?

- **ArrayIndexOutOfBoundsException :** It is thrown to indicate that an array has been accessed with an illegal index. The index is either negative or greater than or equal to the size of the array.
- **StringIndexOutOfBoundsException :** It is thrown by String class methods to indicate that an index is either negative than the size of the string
- **NoSuchElementException :** It is thrown to indicate that there are no more elements left in the enumeration.



What is Compile Error, Runtime Error and Runtime Exception? What is the difference between Error and Exception?

- An **Error** indicates serious problems that a reasonable application should not try to catch. It is used in situations where there is nothing programmer can do about it. (Ex: StackOverFlowError, OutOfMemoryError)

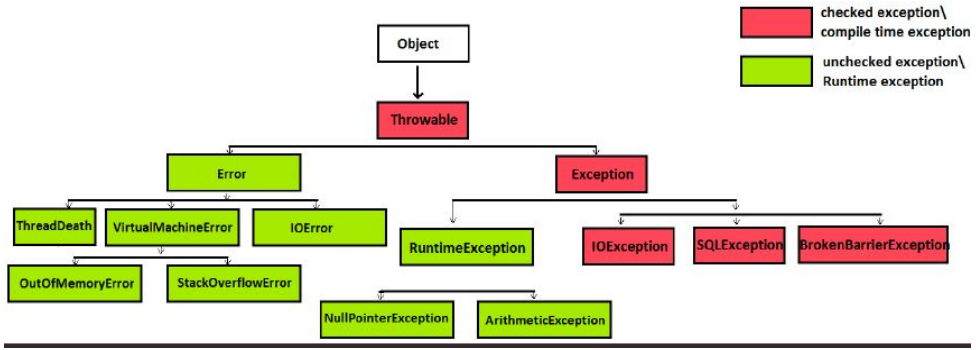
- An **Exception** indicates conditions that a reasonable application might want to catch. It is used when a programmer can handle the exception.

1. Compile errors: Compiler will catch it and will not let code to be compiled successfully. We can not use try/catch block to handle this.
   (Ex: Syntax errors, data types, creating object of interface, etc.…)

2. Errors/Exceptions during code execution:
   - Error that takes place during execution(Runtime Error)
     (Ex: StackOverFlow error(Stack memory is full), OutOfMemoryError(Heap memory is full). We do not use try/catch to handle.
   - Runtime Exception that takes place during execution(Runtime Exceptions)
     (Ex: IndexOutOfBounds Exception, NoSuchElementException)

What is Checked and Unchecked Exceptions?

- There are two categories of exceptions:
  1. Checked Exception: It is an exception that we must handle for the code to compile. If you do not handle, code will not compile
  2. Unchecked Exception: It is optional to handle, code will compile even if we do not handle



- All of the exceptions that do not inherit from Error or RuntimeException are checked exceptions. These are the exceptions that you should handle in your program.
- For the code to compile we need to either :
  1. Handle: try...catch...finally
  2. Declare: throws declaration

- All of the exceptions that inherit from Error class or RuntimeException class are unchecked exceptions.
- These are the exceptions that you should not handle in your program.
- Code will compile even if we handle or not.
- Happens due to programming mistakes.

What is Throws?

- Throws clause informs the compiler that a method throws one or more exceptions.
- To declare throws it is written next to method.
- Whoever calls this method responsible with handling.

Can you create multiple catch block in Java?

- Yes we can. But we should handle more specialized exception classes before general exception classes.

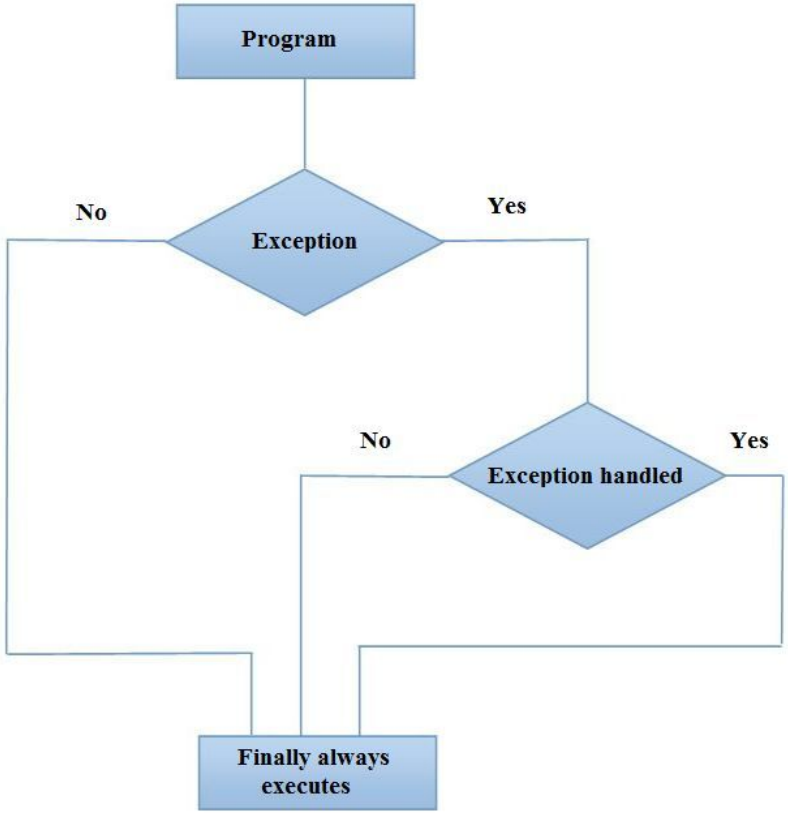
```
try {
 int buckets[] = new int[15];
 buckets[15] = 38 / 6;
} catch (ArithmeticException a) {
 System.out.println("Arithmetic Error!");
} catch (ArrayIndexOutOfBoundsException a) {
 System.out.println("Array out of bounds!");
} catch (Exception a) {
 System.out.println("Generic error");
}
```

What is the purpose of finally block?

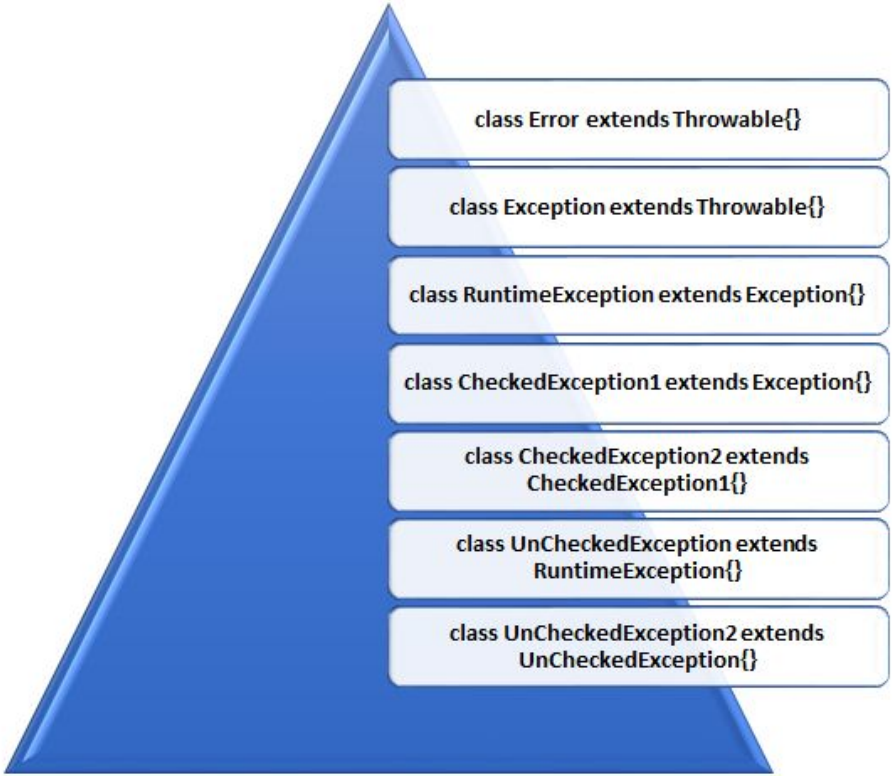
- Finally block is always executed (even when an exception is thrown). So if we want some code to be always executed we can move it finally block.
- Just in two condition finally block could not execute:

  ↠If exception is thrown in finally.

  ↠If JVM crashes



Can you explain the hierarchy of exception handling classes?



Throw clauses?

- It can be used to throw an exception manually.
- We can throw either Checked and Unchecked Exception

  throw new ExceptionType(MessageString);

```
1  package throwUnChecked;
2  /** Copyright (c), AnkitMittal JavaMadeSoEasy.com */
3  public class ExceptionTest {
4      public static void main(String[] args) {
5          m();
6      }
7      static void m(){
8          throw new NullPointerException();
9      }
10 }
11
12 /*OUTPUT
13
14 Exception in thread "main" java.lang.NullPointerException
15         at throwUnChecked.ExceptionTest.m(ExceptionTest.java:8)
16         at throwUnChecked.ExceptionTest.main(ExceptionTest.java:5)
17
18 */
```

What is the differences between Arrays and Collections?

	ARRAYS	COLLECTIONS
Size	Fixed in Size	Growable in Size
Point of Memory		
Point of Performance		
Data Type	Homogenous	Homogenous & Heterogenous
Data Structure		
Can hold:	Primitive & Object Types	Only Object Types

What are the differences between List and Set?

List	Set
List is an ordered collection it maintains the insertion order, which means upon displaying the list content it will display the elements in the same order in which they got inserted into the list.	Set is an unordered collection, it doesn't maintain any order. There are few implementations of Set which maintains the order such as LinkedHashSet (It maintains the elements in insertion order).
Allow duplicate values.	Does not allow duplicate values. All the elements of a Set should be unique if you try to insert the duplicate element in Set it would replace the existing value.
List allows any number of null values	Set can have only a single null value at most
ListIterator can be used to traverse a List in both the directions(forward and backward)	ListIterator can not be used to traverse a Set. We can use Iterator (It works with List too) to traverse a Set.
List interface has one legacy class called Vector	Set interface does not have any legacy class.

LIST	SET
Duplicates are allowed	Duplicates are not allowed
Insertion order preserved	Insertion order not preserved

How can you do Object sorting in Arraylist?

We can do it implementing Comparable Interface

```
public class Student implements Comparable<Student>{
    private String id;
    private String name;
    private int score;

    Student(String id, String name, int score){
        this.id = id;
        this.name = name;
        this.score = score;
    }

    @Override
    public int compareTo(Student o) {
        return this.id.compareTo(o.id);
    }

    public String toString(){
        return "\n id: "+id+" name: "+name +" score: "+score;
    }
}
```

What are the differences between ArrayList and LinkedList?

ArrayList	LinkedList
ArrayList internally uses a **dynamic array** to store the elements.	LinkedList internally uses a **doubly linked list** to store the elements.
Manipulation with ArrayList is **slow** because it internally uses an array. If any element is removed from the array, all the bits are shifted in memory.	Manipulation with LinkedList is **faster** than ArrayList because it uses a doubly linked list, so no bit shifting is required in memory.
An ArrayList class can **act as a list** only because it implements List only.	LinkedList class can **act as a list and queue** both because it implements List and Deque interfaces.
ArrayList is **better for storing and accessing** data. **get()**	LinkedList is **better for manipulating** data. **add(), remove()**

Method	Description
addFirst()	Adds an item to the beginning of the list.
addLast()	Add an item to the end of the list
removeFirst()	Remove an item from the beginning of the list.
removeLast()	Remove an item from the end of the list
getFirst()	Get the item at the beginning of the list
getLast()	Get the item at the end of the list

What are the differences between Local , Instance and Static Variables?

Local Variables

- A variable defined within a block or method or constructor
- Created when the block in entered or the method is called and destroyed after exiting from block, or when the call returns from method
- Scope of these variables exists only within the block in which the variable is declared
- Initializition is mandatory

Instance Variables

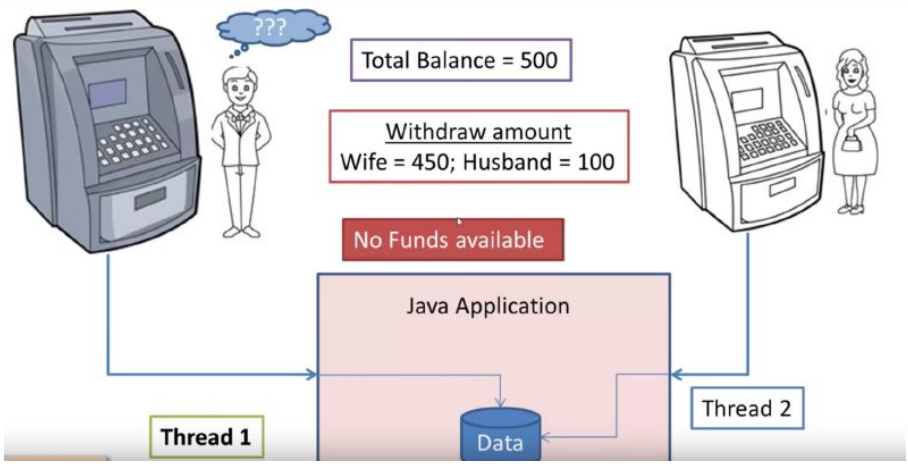
- Non-static variables and are declared in a class outside any method, constructor, or block
- Created when an object of the class is created and destroyed when the object is destroyed
- Unlike local variables, we may use access modifiers. If we do not specify any modifier then default access specifier will be used
- Initialization is not mandatory.
- Can be accessed only by creating objects

Static Variables

- Also known as class variables.
- Declared using the static keyword within a class outside any method, constructor or block.
- We can ony have one copy of static variables per class
- Created at the start of the program execution and destroyed automatically when execution ends
- Initialization is not mandatory
- We can access thru class name->className.staticVariable;

Do you know Vector in Collections?

- It implements List Collection
- I never used it.
- The difference from List and ArrayList is that Vector is thread-safe(synchronized)
- Code Synchronization helps in preventing multiple threads executing a code simultaneously.

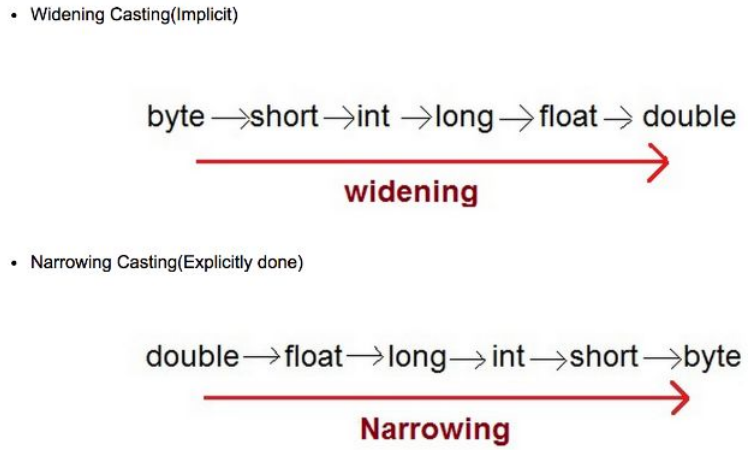


How you are managing your browser in your framework? How can you run your smoke test with different browser?

- I have a properties file that I stored url and browser. And I am managing from here changing the url and browser.

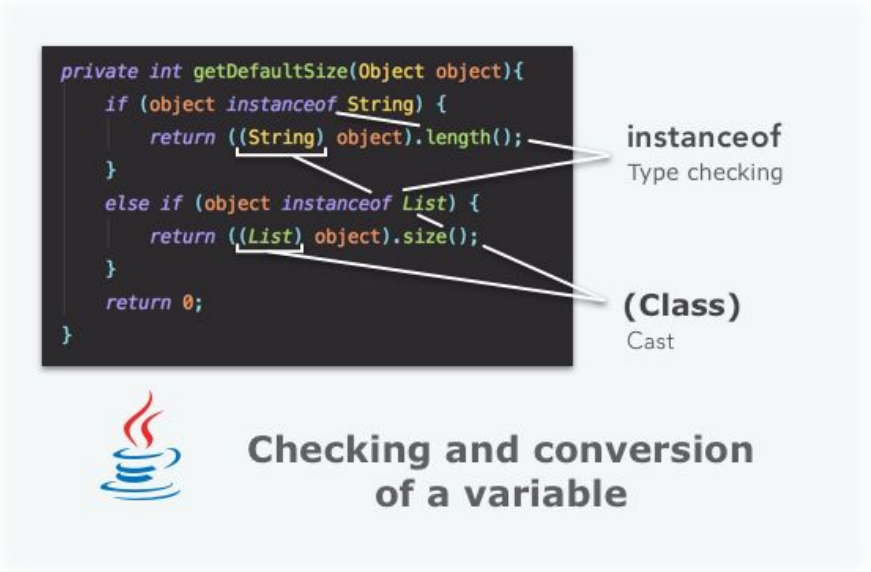
What is casting in Java?

- **Primitive casting:** Casting between primitive types enables you to convert the value of one type to another primitive type.
- **Object casting:** Instructs the compiler to change the existing type of an object reference to another type.



What is the function of "instanceof" in Java?

- The java instanceof operator is used to test whether the object is an instance of the specified type (class or subclass or interface).



Difference between getClass() , getClass().getName() , getClass().getSimpleName()?

- getClass() method helps us to access the object information
- getClass().getName() : returns package.className of the object
- getClass().getSimpleName() : returns just the class name of the object

What's Polymorphism? What's down casting?

- Polymorphism is the ability of using objects in many forms. It is one of the important concept of OOP.
- Process of making Polymorphism is that reference type is parent class / interface and object type is child.
- It is also useful for code reusability.
- Two rules on Polimorhisim:
  - Reference type can be parent or interface , object can be any extending or implementing child class
  - Reference type decides what is accessible
- Down-casting or object casting instructs the compiler to change the existing type of an object reference to another type.

```
public class A{
    public void mA(){}
}

public class B extends A{
    public void mB(){}
}

A obj = new B();
obj.mA(); //is only accessible. Reference is A


B obj2 = (B) obj;

obj2.mA();
obj2.mB();
```

Difference between final, finally, finalize()?

- finalize(): method that uses in garbage collector. With this method collector clears the memory.
- final: It is used for methods, variables and properties and make them unchanged.
- finally(): It is used with try/catch and run in every situation.

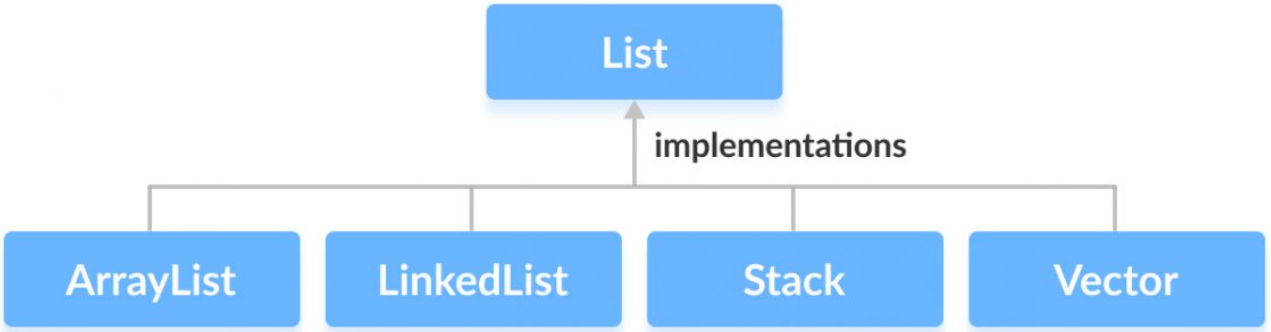
Difference between throw and throws?

- throw is explicitly create an exception.
  - throw ExceptionObj = throw new RuntimeException

- throws declares that an exception may occur and allow the code to compile. Basically ignores the exception and allow its to happen. It is used with methods.

In Collections which Interface allows you to duplicate ?

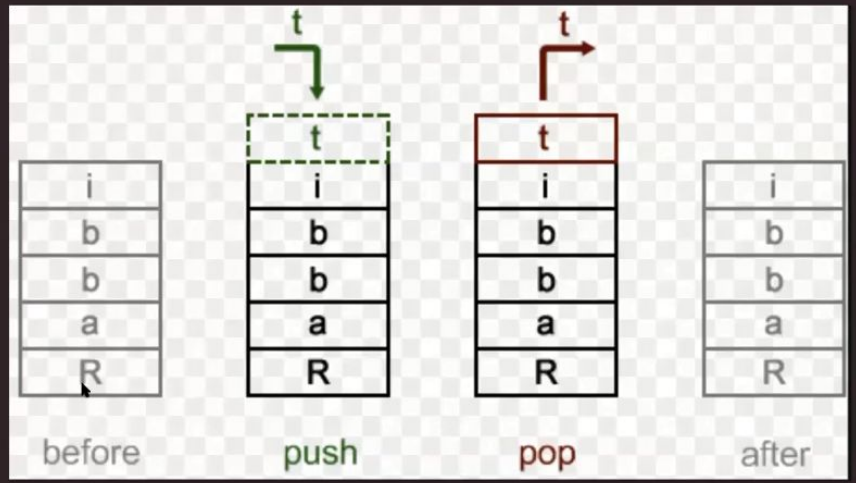
- List Interface allows us to duplicate and makes insertion order preserved.



What is Stack in Collection?

Stack

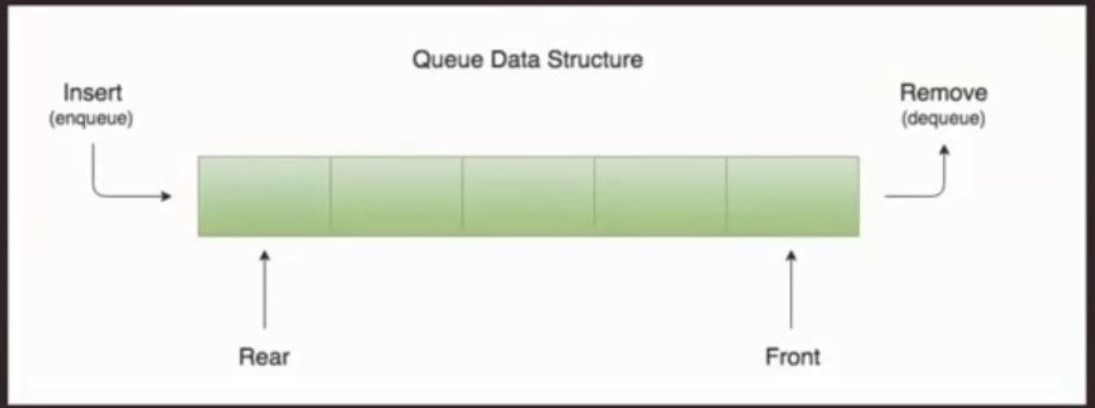
- Stack is a subclass of Vector that implements a standard last-in, first out. (LIFO)



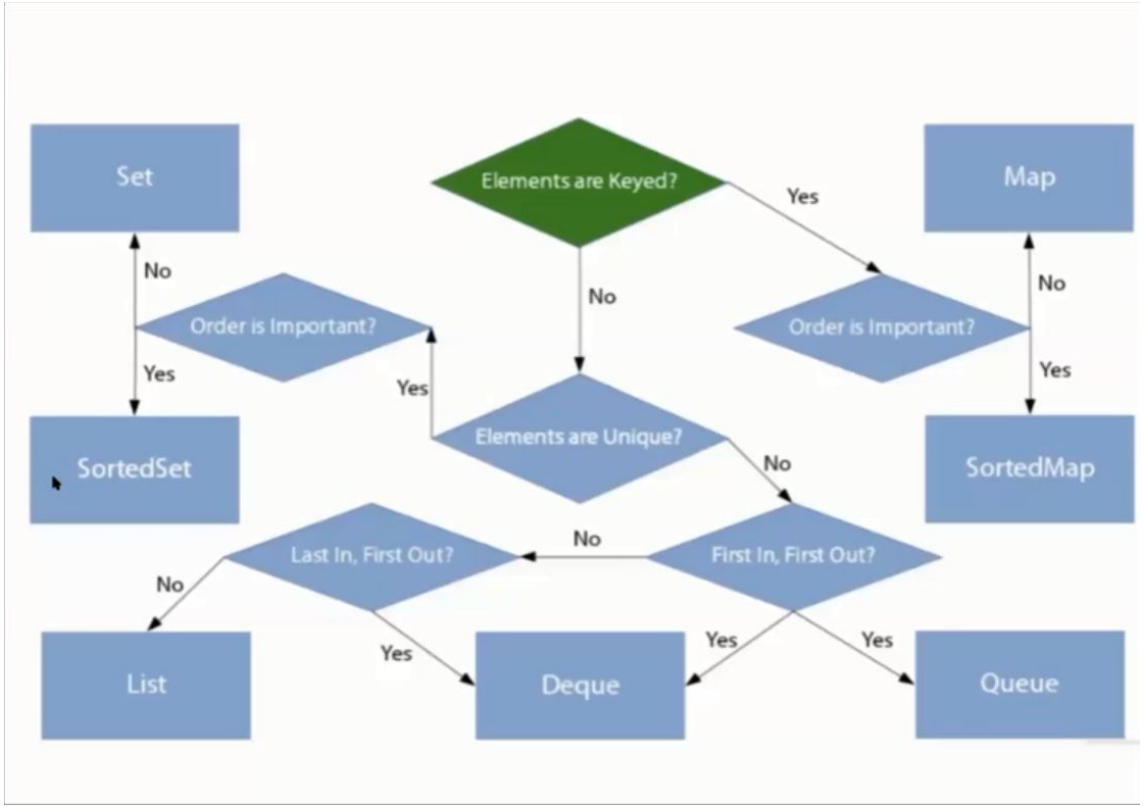
What is Queue in Collection?

Queue

- A Queue is a First In First Out (FIFO) data structure.



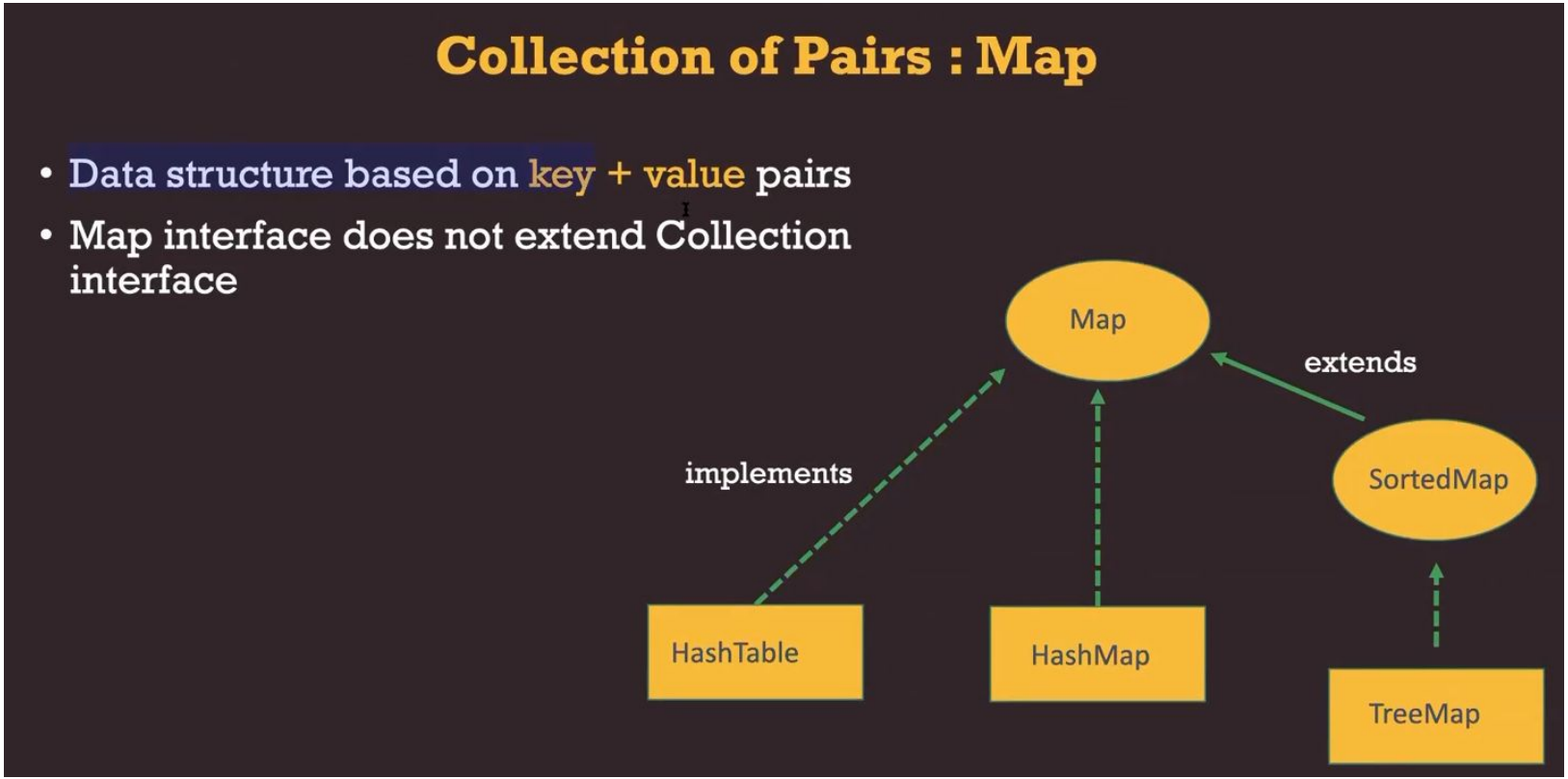
Decision Points of Collection?



What is the difference between for each loop and iterator?

- When using iterator object, we can remove values while looping
- When using for each loop, we can not remove values from the collection
- We need to create iterator object to able to use it
- For each loop works with a temporary variable

Can you tell us about Map?



What is the difference between HashMap and HashTable?

HashMap	HashTable
Every method in HashMap are not synchronized	Every method in HashTable are synchronized
HashMap is fast	HashTable is slow
HashMap allows one null key and multiple null values	HashTable does not allow any null key or value
HashMap implements Map interface	HashMap implements Map interface

What is the difference between HashMap and TreeMap?

HashMap	TreeMap
HashMap does not maintain any sorting order	TreeMap elements are sorted according to natural sorting order
Internally it used hash table	Internally is uses Red Black Tree
Contains one null key and many null values	Can not contain null keys but may contains many null values
HashMap implements Map interface	It implements SortedMap interface

What's inheritance? Can a superclass have more than one subclass?

- Inheritance represents the IS-A relationship which is also known as a parent-child relationship.
- It is the mechanism in java by which one class is allowed to inherit the features (fields and methods) of another class.
- The idea behind inheritance in Java is that you can create new classes that are built upon existing classes.
- When you inherit from an existing class, you can reuse methods and fields of the parent class.
- Moreover, you can add new methods and fields in your current class also.
- Code reuse is the most important benefit of inheritance because subclasses inherits the variables and methods of superclass.

Briefly explain the differences between method overloading and method overriding?

- First and most important difference between overloading and overriding is that,
  - in case of overloading , method name must be the same, but the parameters must be different;
  - in case of overriding , method name and parameters must be same
- Second major difference between method overloading and overriding is that;
  - We can overload method in the same class but method overriding occurs in two classes that have inheritance relationship.
- We cannot override static, final and private method in Java, but we can overload static, final and private method in Java.
- In method overloading , return type can be same or different. In method overriding , return type must be same or covariant type.

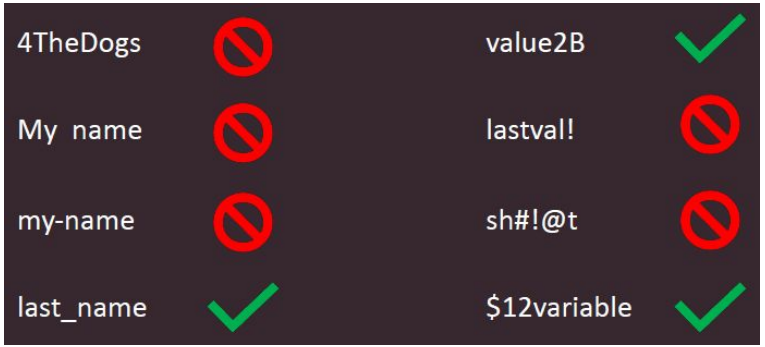
How we can create variables in different ways in java . And also please talk about the identifiers rules?

1
```java
int price=5;
int quantity=14;
int total=price*quantity;
```

2
```java
int price,quantity,total;
price=5;
quantity=14;
total=price*quantity;
```

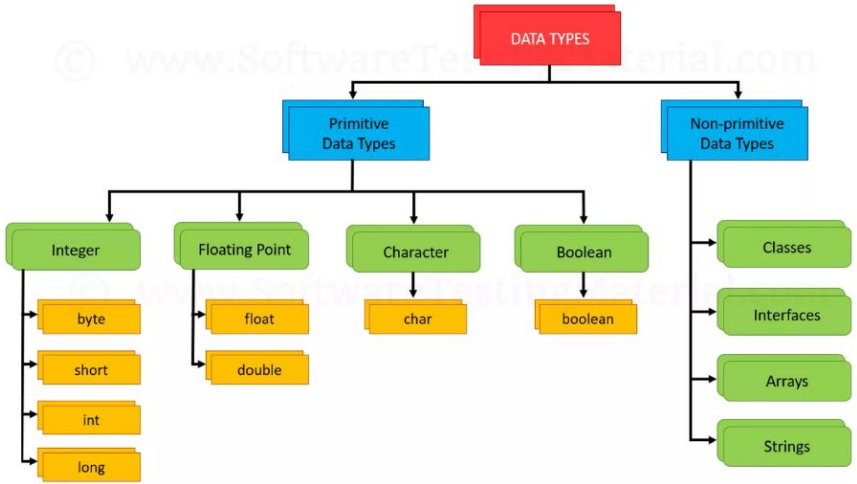
3
```java
int price=5,quantity=14;
int total=price*quantity;
```

- Variable names should be readable.
- When variable names contain two or more words, use camel case.
- The first character must be one of the letters a-z or A-Z, an underscore(_), or a dollar sign($)
- After the first character, you may use the letters a-z or A-Z, the digits 0-9, underscores(_), or dollar sign($)
- Identifiers can not include spaces
- Variable names can not be Java reserved word.



What is variable and what are the different data types available in java?

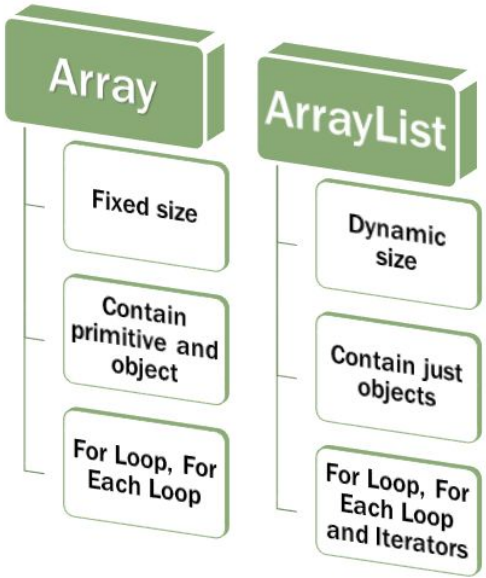
- Variables are containers for storing data values.

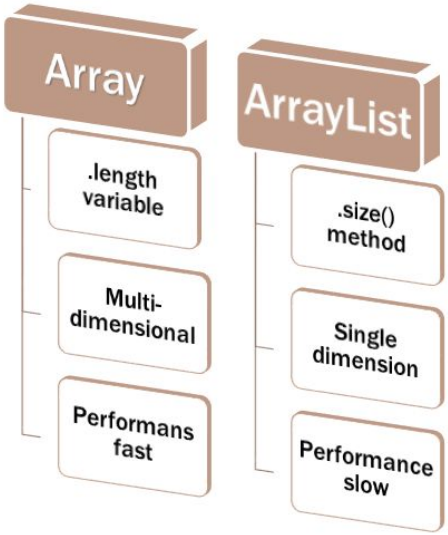


What is Method Overloading?

- If a class has multiple methods having same name but different in parameters, it is known as Method Overloading.
- If we have to perform only one operation, having same name of the methods increases the readability of the program.
- There are two ways to overload the method in java
  - By changing number of arguments
  - By changing the data type

Arrays vs ArrayList?





What are JVM, JRE and JDK standing for? Please explain briefly.

- JVM stands for Java Virtual Machine which is a run-time environment for the compiled java class files.
- JRE is what we need to run a Java program and contains set of libraries and other files that JVM uses at run time. JRE = JVM + Library Classes
- JDK is what we need to compile Java source code and contains JRE, development tools.
  JDK = JRE + Development tools

Can you talk about the advantages and disadvantages of automation?

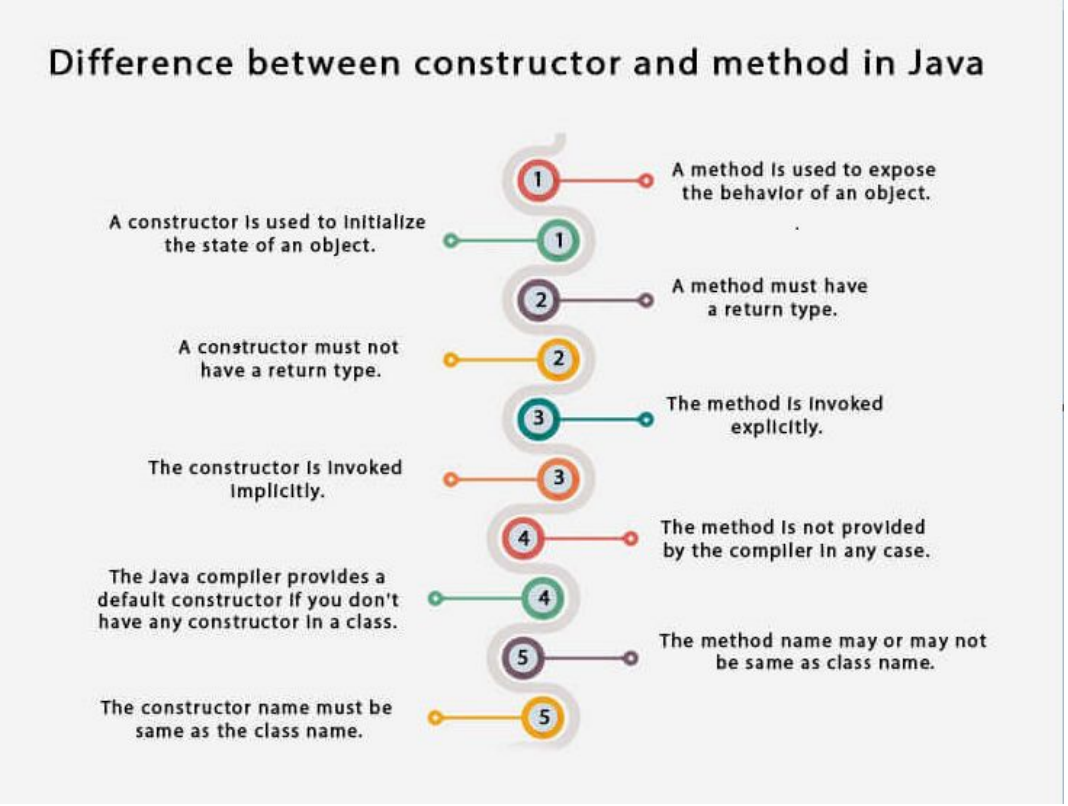
Advantages:

- **Saves time and cost** as the software automatically runs the tests for you and shares report
- **Reduces error** because in case of regression testing, a tester would have to repeat those thousand test cases again and again and out of sheer boredom, might miss some. But the software doesn't get bored, so no errors there
- **Boosts productivity** as you can schedule it in your sleep time. So with only few testers, you can test thousands of test cases

Disadvantages:

- Need proficiency in coding skills
- Difficult to write script for some complicated scenarios
- Need to update scripts due to changes in features or flows

What are the differences between method and constructor?



How can you swap 2 Numbers?

1) Assign x to a temp variable : temp = x
2) Assign y to x : x = y
3) Asign temp to y : y = temp

```
int x = 10;
int y = 5;
x = x + y;
y = x - y;
x = x - y;
```

Primitive Castings?

Type casting is when you assign a value of one primitive data type to another type.

In Java, there are two types of casting:

- **Widening Casting** (automatically) - converting a smaller type to a larger type size
  `byte` -> `short` -> `char` -> `int` -> `long` -> `float` -> `double`

- **Narrowing Casting** (manually) - converting a larger type to a smaller size type
  `double` -> `float` -> `long` -> `int` -> `char` -> `short` -> `byte`

What's Encapsulation and what are the benefits of using encapsulation? How to apply getters and setters to a private constant (final) data?

- The meaning of Encapsulation is to make sure that sensetive data is hidden from users. In IT area there are a lot of personel and private datas that should not be shared with users. For example bank acount number, passwords etc. To hide this datas we use Encapsulation. The implement it first we are declaring class arrtibutes as private. Then we provide public get and set methods to access and update them. getter are returning directly private variable, setter it is taken a parameter and assigning it to the same private variable. Then returning assigned variable.
- Using encapsulation gives us some advantages: First it provides us better control of class attributes and methods. We can make dates read-only or write-only. If we use only get methods the date becomes read-only means users only can see it. On the other hand if we use only setter method then it becomes write only means users can only modify it.
- Encapsulation makes the codes more flexible. The developer can change one part of code without affecting other parts.
- With final attributes we can only use getter. It is not possible to use setter with final. Because the attributes can not be changed.

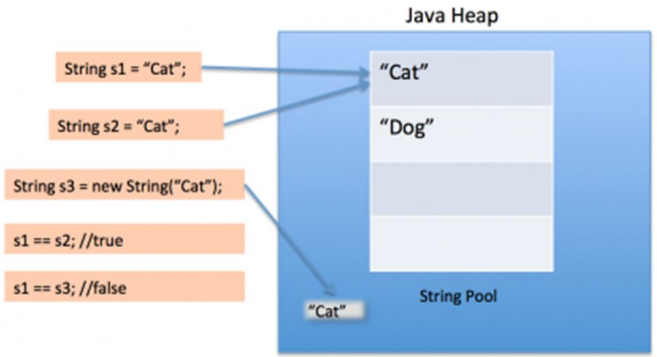
What is String in Java?

Strings are used for storing text.

A String variable contains a collection of characters surrounded by double quotes

STRING LITERAL VERSUS STRING OBJECT

STRING LITERAL	STRING OBJECT
Set of characters that is created by enclosing them inside a pair of double quotes	Set of characters that is created using the new() operator
If the String already exists, the new reference variable will be pointing to the already existing literal	Even the String already exists or not, a new String object will be created
String s = "Hello World";	String s = new String ("Hello World!");

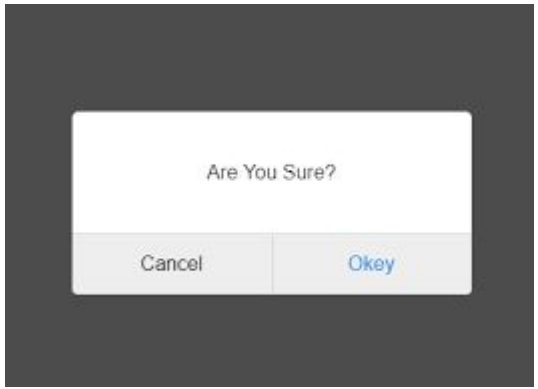


•The string is Immutable in Java because String objects are cached in the String pool.

- As the name suggests, **String Pool in java** is a pool of Strings stored in **Java Heap Memory**. We know that String is a special class in java and we can create String objects using a new operator as well as providing values in double-quotes.

How do you handle JavaScript popups?

- I use alert class for handling popups.



Can an abstract class extend another abstract class?

- Yes it can. If so it is optional to implement abstract methods from abstract super class.
- A first concrete class must implement all inherited abstract methods.

Can regular class have an abstract method?

- If there is an a abstract method in a class, that class needs to be abstract class.

How abstraction is achieved in Java?

- In Java, abstraction is achieved by using the abstract classes and interfaces.

What is the access modifier speciality for the Java Classes?

- Top level Java class should have only public and default as access modifiers.

What is the main purpose of Constructor?

- Constructors are used to initialize the object's instance fields

What is default constructor?

- It is automatically generated by the compiler if no constructors have been defined for the class.

What is the difference between navigate() and get () methods in automation?

- There is no difference. They both navigate the web page and wait until it is loaded

In ArrayList Methods what is the difference add() and set()?

- add() inserts given value just before the given index, shifting subsequent values right.
- set() replaces with given value.

What is the difference between Next() and nextLine()?

- If your string value has space you should use nextLine(). If not you should use next()

Can we create a method with the Class name?

- Yes we can. Because Methods have return type, but not recommended

What is the difference between isEmpty() and isBlank()?

- isEmpty() checks if your string value has nothing
- isBlank() checks if your string value has nothing including space.

What is the function of 'this' keyword?

- It is reference variable that refers to current object.

What is the Encapsulation?(short version)

- Make the variables private
- Create a getter method
- Create a setter method

Can you sort the the array without using Method?

```
for (int i = 0; i < arr.length; i++) {
    for (int j = i + 1; j < arr.length; j++) {
        int tmp = 0;
        if (arr[i] > arr[j]){
            tmp = arr[i];
            arr[i] = arr[j];
            arr[j] = tmp;
        }
    }
}       //Bubble-Sort
```

Palindrome algorithm?

```
String dummy="";
for(int i=str.length()-1;i>=0;i--) {
      dummy=dummy+str.charAt(i)
;
}
if(str.equals(dummy)) {
      System.out.println(true);
}else {
      System.out.println(false);
```

How many words in the String?

```
String str="The public should continue to remain vigilant and report any suspicious activity to"
        + " the police she said. The announcement comes the morning after authorities in Austria"
        + " said a 20-year-old Islamic extremist fatally shot four people in a busy nightlife district"
        + " in Vienna before he was killed by police. The shooting rampage happened just hours ahead of "
        + "a new coronavirus lockdown in the country.
        "The suspect in Monday night's attack was identified as a young Austrian-North Macedonian dual "
        + "citizen with a previous terror conviction for attempting to join the Islamic State extremist group in Syria.";
String [] strArray=str.split(" ");
System.out.println(strArray.length);
```

Can you explain toString() method?

- If you don't override it, it give you object reference address,
- If you override it, it give you instance values of object.

What are the difference of variable types?(Short Version)

- Local variable is created inside the method.
- Instance variable is created inside class and belongs to object
- Static variables is created inside the class and belongs to class

What is Autoboxing and Unboxing?

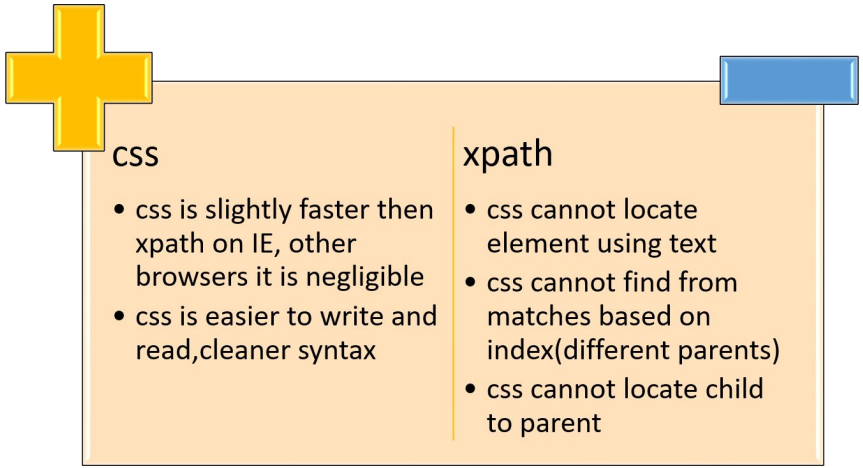
- Autoboxing converts primitive into object
- Unboxing converts object into primitive

Can you do multiple inheritance in Java?

- We can not do multiple inheritance with classes.
- We can do it with abstraction.

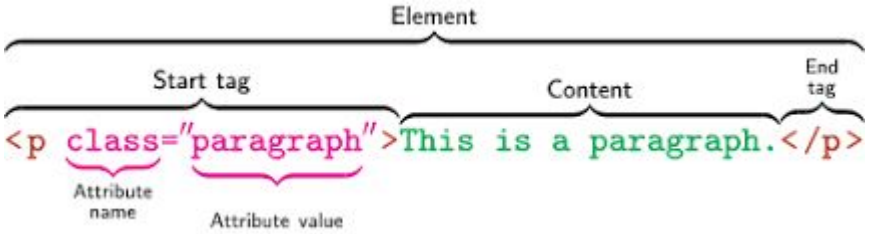
What is the difference between css and xpath?

- xpath can do more than css, but it is little complex to write



4 Main Parts of Elements in HTML?

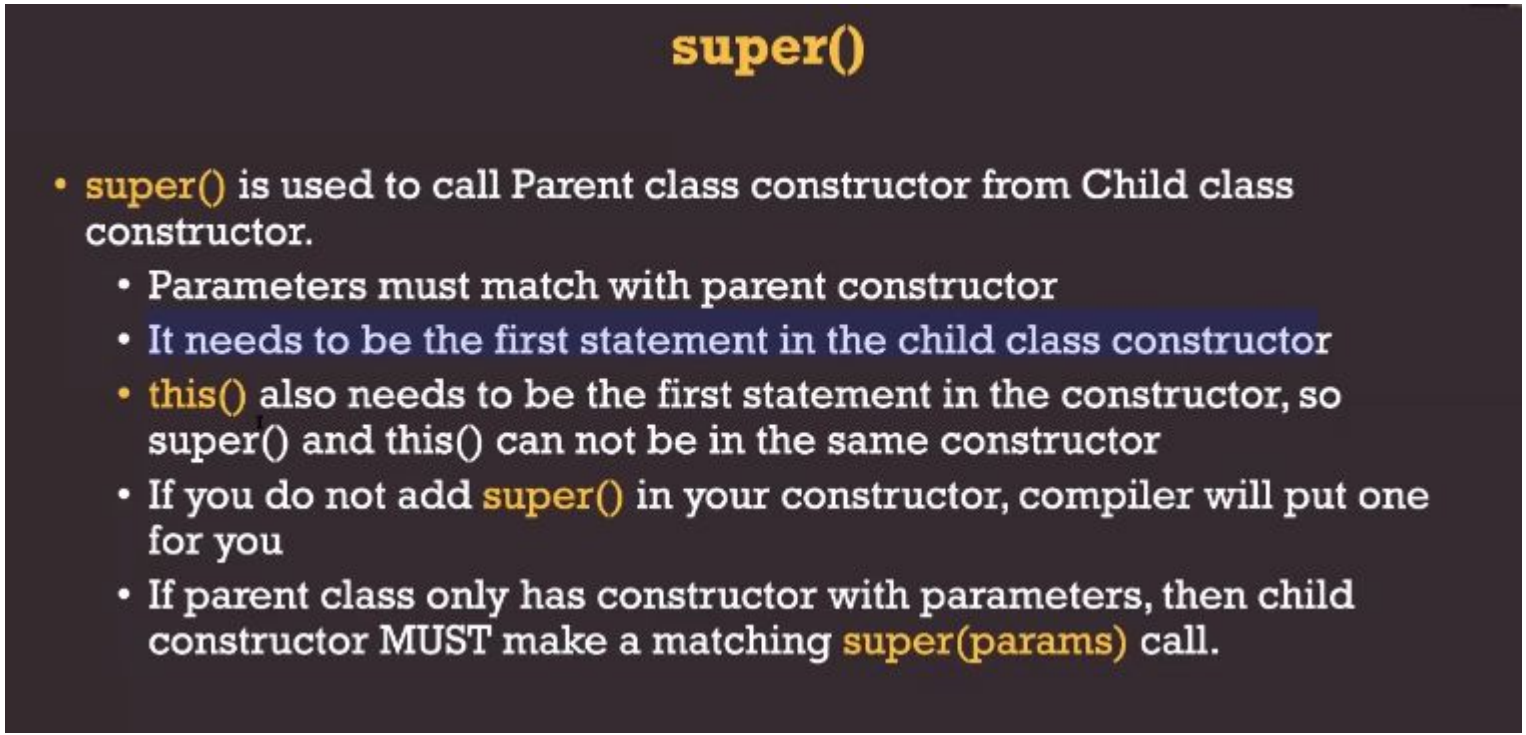
- Tag
- AttributeName
- AttributeValue
- Content



Creating new array with concatenating two arrays?

```
public static int [] plus2Array(int [] arr1, int [] arr2) {
        int [] newArray=new int [arr1.length+arr2.length];
        for ( int i=0; i<arr1.length; i++) {
            newArray[i]=arr1[i];
        }
        for ( int i=0; i<arr2.length; i++) {
            newArray[i+arr1.length]=arr2[i];
        }
        return newArray;
    }
```

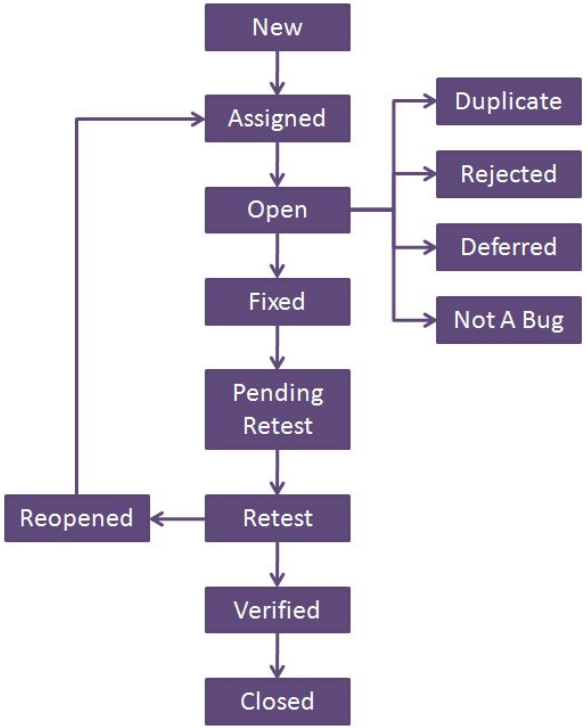
The rules about super () keyword?



What is the difference between Constructor and Method?

Java Constructor	Java Method
A constructor is used to initialize the variables of a Class	A method is used to define the behavior/functionalities of an object
A constructor must not have return type	The method may or may not have a return type
The constructor has invoked automatically at the time of object creation. Constructors can be called explicitly when there are multiple constructors are defined.	The method is invoked explicitly using the dot operator
The java compiler provides a default constructor if you do not have any constructor	There is no existence of default Method
Constructor name must be same as the class name	Method name may or may not be same as class name

Which status Bug Life Cycle includes?



Bug / Defect Lifecycle
http://ISTQBExamCertification.com

What is Method Overriding and which rules does it have?

Overriding Superclass Methods

- Sometimes a subclass inherits a method from its superclass, but the method is inadequate for the subclass's purpose. Because the subclass is more specialized than the superclass, it is sometimes necessary for the subclass to replace inadequate superclass methods with more suitable ones. This is know overriding.

Method Overriding Rules

1. There must be is-a relationship(inheritance)
2. The method must have the same name as in the parent class
3. The method must have the same parameter as in the parent class
4. Access modifier: Needs to be same or more visible
   - public - > public
   - protected - > protected, public
   - default - > default, protected, public
5. Return type:
   - must be same or
   - covariant type (same class type or sub class type)

What is the difference between Local Variables, Instance Variables and Static Variables?

Local Variables

- A variable defined within a block or method or constructor
- Created when the block in entered or the method is called and destroyed after exiting from block, or when the call returns from method
- Scope of these variables exists only within the block in which the variable is declared
- Initializition is mandatory

Instance Variables

- Non-static variables and are declared in a class outside any method, constructor, or block
- Created when an object of the class is created and destroyed when the object is destroyed
- Unlike local variables, we may use access modifiers. If we do not specify any modifier then default access specifier will be used
- Initialization is not mandatory.
- Can be accessed only by creating objects

Static Variables

- Also known as class variables.
- Declared using the static keyword within a class outside any method, constructor or block.
- We can ony have one copy of static variables per class
- Created at the start of the program execution and destroyed automatically when execution ends
- Initialization is not mandatory
- We can access thru class name->className.staticVariable;

What is the difference between Method Overloading and Method Overriding?

Method Overloading	Method Overriding
Method overloading is performed within class	Method overriding occurs in two classes that have IS-A relationship
In case of method overloading, parameter must be different	In case of method overriding, parameter must be same
Access specifier can be changed	Access specifier must not be more restrictive than original method
private and final methods can be overloaded	private and final methods can not be overridden
Return type of method does not matter in case of method overloading, it can be same or different	Return type must be same or covariant in method overriding

Accessibility of Access Modifiers in Java?

Access Modifier	Accessible to a subclass inside the same package?	Accessible to all other classes in the same package?
default	Yes	Yes
public	Yes	Yes
protected	Yes	Yes
private	No	No

Access Modifier	Accessible to a subclass outside the same package?	Accessible to all other classes outside the same package?
default	No	No
public	Yes	Yes
protected	Yes	No
private	No	No

What is the the difference between Method Overriding and Method Hiding?

- If both method in parent class and child class are an instance method, it called overrides.
- If both method in parent class and child class are static method, it called hiding.
- One method cant be static in parent and as an instance in the child. and visa versa.

Abstraction details?

📌**Abstraction:** is concentrating on essential/important things and not worrying about details.

is concentrating on name of the action/behaviour, without thinking about implementation

📌**Abstraction** can be done in 2 ways:

- Abstract classes,
- Interface

📌**Abstraction** helps with

- organizing the code,
- reusing the code,
- less duplicate code

❓Can we instantiate abstract class❓

- No, we can not create object from abstract class.❌

❓What is Abstract Method❓

- It is a method without body/implementation.
- Can be placed in abstract class or interface.

❓Where do you add implementation❓

- It is added in first concrete class.
- While adding implementation, all overriding rules should be followed.

❓Can we add non-abstract method in abstract class❓

- Yes we can. Abstract class can have both abstract method and non-abstract method.✔️

❓Is it mandatory for abstract class to have abstract method❓

- No it is not. Abstract class can have 0 abstract method.❌

❓Can we add constructor in abstract class❓

- Yes we can.✔️

❓If we can not instantiate abstract class, how we can call the constructor?❓

- The constructor of abstract class can be called from a subclass using super keyword.

❓Can you add instance or static variables into abstract class❓

- Yes we can have instance variables in abstract class.✔️

❓Can you add instance or static init block❓

- Yes we can.✔️

❓Can an abstract class extend another abstract class❓

- Yes it can .✔️

❓Can a class extends multiple abstract classes❓

- No it can not.❌

❓Can we add static method into abstract class❓

- Yes we can.✔️

❓Can abstract method be protected, private, and default❓

- private: no❌
- default: yes✔️
- protected: yes✔️

❓When an abstract class extends another abstract class, does it require to override/implement abstract methods from parent❓

- No it does not require❌
- First concrete sub class is required to implement all abstract methods

❓Can we instantiate abstract class❓

- No we can not create object from abstract class.❌

Abstraction vs Interfaces?

Abstraction vs. Interfaces

- Abstract classes and Interfaces are used to achieve abstraction in Java
- We can not instantiate abstract classes and interfaces
- We use abstract classes for setting foundation for sub classes. It is normally a general idea. // Interfaces are used to add a feature to classes by providing abstract methods
- Class can extends ONE abstract class // Class can implement MULTIPLE interfaces
- Abstract classes can have abstract and non-abstract methods // Interfaces can have abstract, default, static methods // Concrete class is responsible for providing implementation
- Abstract classes can have instance, static and final variables // Interfaces can only have "public static final" variables
- Abstract classes can have constructors // Interfaces can not have constructors
- Abstract Classes can use all access modifiers with variables and methods // Interfaces can only use public access modifier
- Abstract classes can extend a single abstract or non-abstract class and implement interfaces // Interfaces can extend multiple interfaces // Interfaces support multiple inheritance // Interfaces can not extend classes

What is Software Requirements Specification?

- A software requirements specification is a document which acts as a contract between the customer and the supplier.
- This SRS contains all the requirement of the end user regarding that application. SRS can be used as a communication medium between the customer and the supplier.
- The developer and tester prepare and examine the application based on the requirements written in the SRS.
- The SRS document is prepared by the Business Analyst by taking all the requirements for the customer.

Software Development Life Cycle (SDLC) - What is SDLC?

- SDLC defines the phases in building of software or application.
  - Project Planning
  - Requirement Gathering (Gathering information used to plan project, Identifying risks)
  - Design (How the application will be built)
  - Coding (developing) (Based on requirements, developers will write the application)
  - Testing
  - Production (deployment)(Releasing product)
  - Maintenance (Making sure product is stable, looking at customer report on bugs and fixing it)

Software Testing Life Cycle (STLC) - What is STLC?

- STLC defines the phases in testing of software or application. In STLC process in different activities are carried out to improve the quality of the product.
    - o Requirements analysis
    - o Test Planning
    - o Test Designing
    - o Test Environment Setup
    - o Test Execution
    - o Test Reporting

What is requirement?

- Requirements convey the expectation of users for the software or product.
- Process to gather requirements from client, analyze and document them is known as requirement engineering.
- Goal of requirement engineering is to develop and maintain sophisticated and descriptive SRS ‘System Requirements Specification’ Document

Where is the requirement coming from?

- Customers give requirements for the application
- Talk to the End-users à the person that will be using this application the most
- Talk to Partners –
- Talk to Domain Experts – coders and developers that have already build this application similar before or someone that is an expert the type of product being built
- Industry Analysts and Information about competitors

When the testing starts?

- Testing starts from testing the requirements (not after the coding phase which seems like the most likely answer.)

- We have to make sure the requirement is correct in first place. With the wrong requirement it is impossible to build bug free application.

How to tell if the requirement is good or bad?

- Requirement must be (SMART)
    - o Specific
    - o Measurable
    - o Attainable
    - o Realistic
    - o Testable / Timely

Why we test?

- To build bug free application.
- To satisfied end user and client.
- To build great product to generate more revenue.
- ! To meet expected with actual behaviour !

What is tester’s main responsibility?

- To find bugs as many as possible as early as possible. Make sure most of the bugs get fixed.
- To satisfy the end user and client by delivering bug free and user-friendly application.

Is 100% testing possible?

- We can’t test the application 100% since there are unlimited scenarios that we can’t even imagine.
- Software testing is **risk-based** activity based on priority of the functionality we can test as much as much as possible.
- Even though 100% testing is not possible, but I believe 100% customer satisfaction is certainly possible.

What is positive testing? Happy Path testing?

- Testing the application with valid inputs. Also called “Happy Path” Testing.
  Ex. If you log in with valid username and password it is positive testing.

What is testing hierarchy?

- Unit testing → Developers test each module or block of code during development.
- Component Testing → Component is a standalone functionality that can work by itself. Ex. Amazon Buyer Functionality, Seller Functionality, Prime Video Functionality.
- Integration Testing → Combine all of the Functionalities. When I integrate them, can I still use all of the functions? Make sure they all still work.
- System Testing → End-to-End testing. Test everything from beginning to end.
- Acceptance Testing → Hire a UAT (User Acceptance Testing) Team or Business Analyst can also do Acceptance Testing. After testing has been complete you have to get another team to do acceptance testing so they can confirm the QA teams testing was successful and have the product ready for the customer.

How many environments you have?

- Development Environment
- Test Environment
- Pre-production Environment
- Production environment

What is Functional testing?

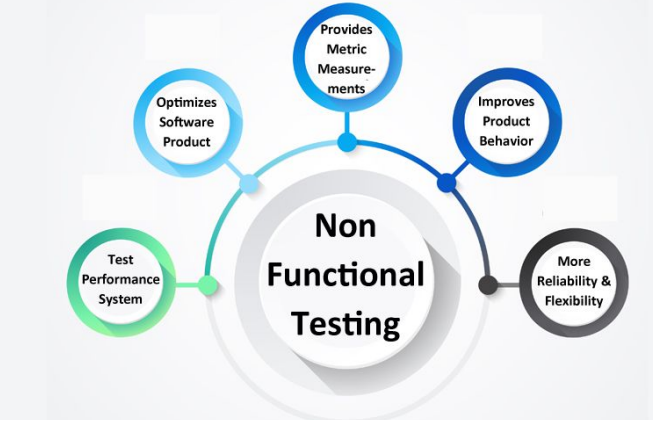
- Similar to Black box testing or manual testers. Just testing the specific functionality of the application. Ex. Can user login? Can user logout?
- Can be done by both manual testers and automation teams

What is Exploratory Testing?

- Exploratory Testing is informal testing performed by the testing team. The objective of this testing is to explore the application and looking for defects that exist in the application.
- Sometimes it may happen that during this testing major defect discovered can even cause system failure.

What is non-functional testing?

- Performance testing, Security testing, Ex. Can 2000 user's login to the application at the same time? Can user move to next page in 1 second?



What is white box testing and list the types of white box testing?

- White box testing technique involves selection of test cases based on an analysis of the internal structure (Code coverage,branches coverage, paths coverage, condition coverage etc.) of a component or system.
- It is also known as Code Based testing or Structural testing. Different types of white box testing are
    - Statement Coverage o Decision Coverage

What do you know about “Planning Poker” technique?

- Planning poker, also known as Scrum Poker, is a card based agile technique that is used for planning and estimation. To start a session of planning poker technique, the agile user story is read by the product owner.
- The steps performed in the poker planning technique are –
    - Each estimator has a deck of poker cards with the values such as 0, 1, 2, 3, 5, and so on, to denote story points, ideal days or something else that the team uses for estimation.
    - Each estimator has a discussion with the product owner and then privately selects a card on the basis of their independent estimation.
    - If the cards with same value are selected by all estimators, it is considered as an estimate. If not, the estimator discusses the high and low value of their estimates.
    - Then again, each estimator privately selects a card and reveals. This process of poker planning is repeated to reach a general agreement.

What is the use of burn-up and burn-down charts?

- The burn-up chart illustrates the amount of completed work in a project whereas the burn-down chart depicts the amount of work remained to complete a project.
- Thus, the burn-up and burn-down charts are used to trace the progress of a project.

Can you test a program and find 100% of the errors?

- It is impossible to find all errors in an application mostly because there is no way to calculate how many errors exist. There are many factors involved in such a calculation such as the complexity of the program, the experience of the programmer, and so on.

If developer says not a defect, what to do?

- I always make sure that it is a real defect that's why I reproduce it.
- I take screenshots and give all the steps to reproduce the defect.

Difference between Test case and Test script?

- A test case is a documentation which specifies input values, expected output and the preconditions for executing the test. It's also a layout of the low-level details on how to test the scenario
- A test script in software testing is a set of instructions that will be performed on the system under test to test that the system functions as expected. (Coding part)

What is Test Plan?

- Test plan is a word document that described the testing scope
  - o High level test cycle
  - o Defect life cycle
  - o Entrance Criteria (defines what is needed to start the testing)
  - o Exit Criteria (defines when the testing is finished)

What percentage of position is automation vs manual?

80-85% automation 15-20% manual

What is Acceptance criteria?

- Acceptance criteria is the way that we know the user story is successfully developed or not.
- Statements of requirements that are described from the point of view of the user to determine when a story is ”done” and working as expected
- 3 parts examples
    - Input à valid email address
    - Process à marking messaging
    - Outcome à marketing message design matches the specs provided by marketing

What is an Epic?

- Epic is a big user story that you cannot complete in one sprint.
- For example, as a user I want to buy online so I don't have to visit the local store. This story is too big, and it cannot be completed in one sprint.

What is User Story?

- a user story is just a requirement
  - It normally looks like this:
    - As <end-user> I want to do < action> So that I can <benefit>.
    - As amazon user I should able to login, so I can buy stuffs online

What is Agile?

- Agile is iterative product development methodology that is alternative to the waterfall methodology.
- Scrum : Team plans for amount of work for the next sprint
- Kanban : No sprint planning, stories are picked up as is, but you still have everything else

What is Verification and Validation?

- Verification happens during developing by testers and developers; it is a process of evaluating software at development phase and to decide whether the product of a given application satisfies the specified requirements.
- Validation by testers; is the process of evaluating software at the end of the development process and to check whether it meets the customer requirements.

What is Agile Framework?

- **Role :** PO, SM, Team
- **Ceremonies :** -Sprint Planning, Daily Scrum, Sprint Review, Sprint Retro, Grooming Session
- **Artifacts :** Product backlog, - Sprint backlog, -Burnout chart

What is white box testing and list the types of white box testing?

- White box testing technique involves selection of test cases based on an analysis of the internal structure (Code coverage, branches coverage, paths coverage, condition coverage etc.) of a component or system.
- It is also known as Code Based testing or Structural testing. Different types of white box testing are Statement Coverage and Decision Coverage

How do handle to read and write office files through Java?

- I use Apache poi dependency to interact to read and write excel files.

How do you use OOP Concept in your Framework?

- **Inheritance:** we use base classes such as test base in our framework. this class contains the properties and methods which are common to all test classes. all test classes extend this testBase class..
- **Encapsulation:** we have a driver class that uses private construction and we use the public getter method to access this.
- **Abstraction:** abstract class basepage- my common variable and methods. create another classes about pages. these classes inherits basepage.
- **Polymorphism:**we use method overloading in our framework in multiple instances. we have overloaded utilites methods which can take different types of arguments. sometimes we can pass webelements, or by locators.. webdriver↠chrome driver,JavaScriptExecuter

What is the Page Object Model?

- Page Object Model is a design pattern in Selenium. It allows us ease of maintenance and reusability. In page object model we create classes that serve as an object repository.
- How to we create Pom ? We create a package named pages and we create classes all the active pages in project. We put elements and functionalities in each class related to each page. For example for log in page we create a class called login page and write elements like username and password inputs or sign in and sign up buttons.
- We also create a class BasePage and put inside elements and methods that common for all pages.
- We use @FindBy and @FindAll anotations to locate the elements.

How to handle synchronization issues?

- To handle synchronization issues we use three types of waits.
- First one is Thread.sleep. It is a method that comes from Java. It pauses the program based on given miliseconds.
- Second is imlicitly wait. It cames from Selenium. Implicitily wait only waits until the element located.
- The last one is explicitly wait. It also comes from Selenium. Sometimes we might locate the element but we cannot interact with it within certain time. we have to wait until it is visible, clickable, enabled,has certains text or disappear. when we have to wait for these cases, we will use explicit wait.

How you implement Cucumber?

- Feature files
  - Consists of scenarios that test a certain feature or functionality
  - Feature is main story while scenarios are the test cases to the story(feature)
- Cukes Runner
  - A class that strictly runs the tests, generates codes for step definition
  - @smoketest
  - Cukesrunner ↠ IN CUKESRUNNER I HAVE A FEATURE LOCATION THAT SHOWS WHERE MY FEATURE ARE LOCATED
- Step definition
  - A class that made of steps that starts with Gherkin language
  - Make sure the step definition is in the same package as cukes Runner, or child package (not parent or sibling)

• FOR NON-TECH PPL TO UNDERSTAND
• DEPENDENCY BDD IS A DEPEN
• MVN REPOSITORY IN THE POM.XML FILE
• CUCUMBER BDD FROM CUCUMBER.IO
• Combine techs of TDD
• Behavior driven
• Express the flow customer behavior ↠ Don't focus on the elements

Who writes Cucumber Scenarios and where?

What tool you use for bug tracking?

- JIRA treats all work inside it as an Issue
- So, in JIRA to create a defect would be to create an issue of the type “Bug”.
- Defect reporting :
    - Defect ID
    - Defect title
    - Defect description (steps to reproduce)
    - Environment information
    - Screenshot(attachment)
    - Severity
    - Assign it to Developer

How to find 2nd biggest number in the array?

- The idea is to sort the array in descending order and then return the second element which is not equal to the largest element from the sorted array.

```
// sort the array
sort(arr, arr + arr_size);

// start from second last element
// as the largest element is at last
for (i = arr_size - 2; i >= 0; i--) {
    // if the element is not
    // equal to largest element
    if (arr[i] != arr[arr_size - 1]) {
        printf("The second largest element is %d\n", arr[i]);
        return;
    }
}
```

Our regression is running too long, do you have idea to help?

- You can perform parallel execution with using multiple virtual machines
- You use some tool like SauceLab and BrowserStack.

How many story points do you automate for the sprint?

- It depends. On some sprint we are automation some critical functions. So creating many positive and negative test cases. The number increase a lot. But in another sprint we are focusing details. So creating less test cases. The number decrease. In my last sprint I had 8 user story with 36 story point.

Do you know Background in Cucumber?

- Cucumber has their own before method
- The one in hooks is for java
- A step that runs BEFORE a scenario inside the feature file
- Can only put on top, before all scenarios
- Cannot put pipelines in backgrounds (Only in scenario outline)

What is pull-request?

- Pull requests let you tell others about changes you've pushed to a branch in a repository on GitHub.
- Once a pull request is opened, you can discuss and review the potential changes with collaborators and add follow-up commits before your changes are merged into the base branch.

What kind of reports do you use in your framework?

- Fancy Cucumber Reports
- HTML Reports
- For Jenkins, with plugin generating reports

How to maximize a web page??

- driver.manage().window().maximize();

What is the key class in Selenium?

- Gives us option for pressing keys from keyboard
- Key.ENTER
- MUST BE PASSED TO SendKeys() method
- Ex; .sendkeys(“charger” + keys.ENTER)

Difference between close() and quit() command?

- • driver.close() ➳ used to close the current browser
- • driver.quit() ➳ used to close all the browser instances

How do you handle dynamic elements?

- Find the static part of the id and write a locator(xpath or css) → And then use Startswith, contains, EndsWith
- contains( ) → //*[contains(@name=`btn`)]
- startwith( ) → //label[startwith(@id, `message`)]
- text( ) → //td[text() = `usedId`]
- or & and → //input[@type = `submit` AND @name = `login`]

What is xpath?

- Xpath is used to find the location of any element on a webpage using html structure.
- We could navigate through elements and attributes in an XML document to locate web Elements such as textbox.
- button. checkbox, Image ext... in web Page
    - Absolute xpath starts with single slash (/), starting from root element and all the way to the element.
    - Relative xpath starts with double slash (//), starting selection matching anywhere in the document.

Why I cannot find element?

- Locator changed
- There is an iframe
- Waiting time:: page is loading slowly or Element is dynamic locator
- Page is not fully loaded/opened
- Page changes and that element does not exist anymore

Can u run a class without main method?

- Yes. With TestNG and static block.

What is static import?

- With the help of static import, we can access the static members of a class directly without class name or any object.

- For Example: we always use sqrt() method of Math class by using Math class i.e. Math.sqrt(), but by using static import we can access sqrt() method directly.

What is static block?

- This code inside static block is executed only once: the first time the class is loaded into memory
- static blocks are executed before constructors.

Static method vs. instance method?

- Static methods as name states defined at the class level and could be accessed on the class name i.e no need of class object creation in order to access/call the static methods
- While on another hand if we do not uses the static keyword with variable/method than it belongs or categorized as instance method which is defined at instance level and need class object for their accessibility.
- Static methods exist as a single copy for a class while instance methods exist as multiple copies depending on the number of instances created for that particular class.
- Static methods can't access instance methods/variables directly while instance methods can access static variables and static methods directly

Why is the main method static?

- Jvm directly runs it without creating an object.

What is the differenc Stack and Heap?

heap	stack
it is used to store objects	it is used to store local variables and function call.
JVM will throw java.lang.OutOfMemoryError, if no more heap space.	JVM will throw java.lang.StackOverFlowError, if no memory left in stack.
memory size is bigger than stack.	memory size is small.

What is final keyword?

- final keyword is used with Class to make sure no other class can extend it, for example String class is final and we can't extend it.
- We can use the final keyword with methods to make sure child classes can't override it.
- final keyword can be used with variables to make sure that it can be assigned only once. However, the state of the variable can be changed, for example, we can assign a final variable to an object only once, but the object variables can change later on.
- Java interface variables are by default final and static.

Questions with short Answers

- Where is the Strings store?↠String pool
- What is new keyword? ↠ invoke the construction
- What is default and no-parameter constructor? ↠ if there is multiple parameter constructor the default constructor isn't created.
- Can we inherit the constructor? ↠ No
- Can you overload the constructor? ↠Yes with super() method
- What is singleton pattern? ↠Can be created just one object. if we have multiple driver object our test case can be messed up. constructor as private. public static get method
- Can we override constructor? ↠No. if you override superclass can not create object.
- How do we convert String? ↠ for loop, array, stringbuilder-stringbuffer

What is wrapper class?

- They convert primitive data types into objects.
- Data structures in the Collection framework, such as ArrayList and Vector, store only objects (reference types) and not primitive types.

7/02/2021 Alumni Mentor Questions

- What is Selenium?
- Advantages and disadvantages?
- What version of Selenium do you use right now?
- What kind of waits do you use? What is your sychronization strategy?
- How did you use overloaded Methods in Selenium?
- What is your locator strategy? id,name(check uniques)↠classname/tagname↠linktext↠partiallinktext↠xpath/ css
- What is framework? (Maintainance, reusability, readibilty)
- How do you handle with pop-ups?
- How do we handle iframes?
- What is different between navigate/get?
- How to handle multiple windows/tabs?

7/02/2021 Alumni Mentor Questions

- Do you use JavaScriptExecutor?
- Do you know about Select class?
- How to use actions class?
- How do you upload a file?
- How to work with dropdown without the select tag?
- Page Factory class?
- What exceptions do you know in Selenium?
- What is annotations?
- Difference between JUnit and TestNG? (Junit is used in Cucumber. Cucumber covers Junits missing points.
- How do you handle parallel testing? (surefire plugin)
- Why do you use maven-surefire-plugin? to hande parallel testing.

How to handle Headless browser?

- Headless browser: browser that does not open, it runs as a background service / program.
- Example is htmlunitdriver from selenium
  - WebDriver = new htmlunitdriver()
  - Not very stable
- Phantonjsbrowser
  - More stable
  - browser = new phantomjsbrowser()

findElement vs findElements?

- FindElement > this method returns first WebElement !
  - gives Exception if the element not found
- FindElements > returns List <WebElement>;
  - does not give Exception if the element not found as a result list has null values

Difference between isDisplayed(), isEnabled(). And is Selected() method in selenium WebDriver?

- isDisplayed() ➳ verify the presence of a web element within the web page. If found à true, If not found à false
  - isDisplayed() ➳ check for the presence of all kinds of web elements available
- isEnabled() ➳ verify if the web element is enabled or disabled within the web page.
  - isEnabled() ➳ is primarily used with buttons
- isSelected() ➳ verifies if the web element is selected or not
  - isSelected() ➳ used with radio buttons, dropdowns and checkboxes.

How to Drag And Drop ?

```
Actions action = new Actions(driver);
action.clickAndHold(driver.findElement(By.id("item")))
.moveToElement(driver.findElement(By.id("destination")))
.release().build()
.perform();
```

What are the annotations available in TestNG and what is their purpose?

@Test, @BeforeTest, @BeforeClass, @BeforeSuite, @BeforeMethod,
@AfterTest, @AfterClass, @AfterSuite, @AfterMethod
@Dataprovider

- TestNG is a testing framework. It makes us to manage run different test cases then create reports and logs
- TestNG has @Dataprovider annotation same as Cucumber for Data Driven Testing.

When does the Merge Conflict happen? What are the options to resolve the Merge Conflict?

- A merge conflict is an event that occurs when Git is unable to automatically resolve differences in code between two commits. To resolve this commit we have 4 option.
  - Abort
  - Accept Yours
  - Accept Theirs
  - Partial modification

What is the different between fork and clone?

- A fork is a copy of a repository that allows you to freely experiment with changes without affecting the original project. A forked repository differs from a clone in that a connection exists between your fork and the original repository itself. In this way, your fork acts as a bridge between the original repository and your personal copy where you can contribute back to the original project using Pull Requests.

What is pull request?

- It is a request permission to merge your code on the remote.
- Open your local↠create a branch↠push your branch to the master remote↠open pull request
  - It can be discussed with your team
  - It can be approved
  - It can be asked for more changes
  - It can be rejected

How do you collaborate with your team?

- In one of my projects I worked on a repository and everybody in my team was added as a collaborator. You can not push directly. Everybody work on their own local branch. When work is ready we push to work and create a pull request. Once you open up a pull request team member write a review then pull request merge to the master. Once it is done you can pull it to your local and start to work on it.
- One of my other project I work under Github Enterprise organization. My team added under the organization. We have access to our project and collaborated in, there.

What are the different git commands you are using ?

- In my framework first I create a project and enable it for Version Control System. I use ‘git init’ command to initialize my project. This creates new repository for my project in my local.
- In some works my teammates creates a project and initialize it. I create a local copy with ‘git clone’ command.
- After doing some changes I do commits with ‘git commit’ command. Then with ‘git push’ command I send local changes to the origin.
- For synchronizing I use ‘git fetch’ to to get latest changes from origin; ‘git pull’ to fetch the latest changes form origin and merge. Fetch is getting the latest without merge but pull is getting it with merge.
- I use also ‘git branch’ command to list branches or to create a branch.Branch make us working with not effecting main project.
- After finishing work on branch we are using “git merge” command to combine changes

How can you get second highest salary in SQL Query?

- select max(salary)
- from employees
- where salary<(select max(salary) from employees);

What is the difference between Union and Union All?

- both are set operators, combine two queries.
- different them are;
  - ➳ union : remove the duplicate values; if it's duplicate two tables and sort the result.
  - ➳ union all : does not remove the duplicate values and does not touch the order of the lists, just combine two queries.

What is the 3 important steps in JDBC?

- Connection → Helps our java project connect to database
- Statement → Helps to write and execute SQL query
- ResultSet → A DataStructure where we can store the data that came from database

What is Primary Key and Foreign Key in SQL?

- The PRIMARY KEY:
  - constraint uniquely identifies each record in a table.
  - must contain UNIQUE values, and cannot contain NULL values
- A FOREIGN KEY is a key used to link two tables together.

What are the wildcard characters that you use in SQL?

- The PRIMARY KEY:
  - constraint uniquely identifies each record in a table.
  - must contain UNIQUE values, and cannot contain NULL values
- A FOREIGN KEY is a key used to link two tables together.

What is the difference between inner/full outer/ right outer/left outer joins?

- (INNER) JOIN: Returns records that have matching values in both tables
- LEFT (OUTER) JOIN: Returns all records from the left table, and the matched records from the right table
- RIGHT (OUTER) JOIN: Returns all records from the right table, and the matched records from the left table
- FULL (OUTER) JOIN: Returns all records when there is a match in either left or right table

27/2/2021 Review Interview Questions?

- What is the function of Background in writing Scenarios?
- What is constraints in SQL?
- How do we find duplicate names in SQL?
- How is the reusability in your Cucumber framework?
- How do you use Jenkins? What is the responsibility of it?
- What is Scenario Outline? How do we use it?
- How to find employees whose salaries below to average salary?
- How to handle dropdown in Selenium?
- How to find first_name and last_name who is making the lowest salary?
- How to find first_name and last_name who is making the top 4 salary?

How do we find duplicate names in SQL?

```
select first_name, count(*)
from employees
group_by first_name
having count(*) > 1;
```

How to get List of Map from Resultset in JDBC?

- I use Connection, Statement, Resultset classes. Also I created DBUtils class. In this class I have ready methods.
- If I need to get a table to Java side I use List of Maps. If I need one row I use Map.
- To get List of Map from Resultset:
  - Taking column number with getColumnCount method from ResultsetMetaData class and iterating it.
  - Using while loop in order to get each row.
  - Using getColumnName method from ResultsetMetaData to take column name and getObject method from Resultset to take column value.
  - Putting these values to the Map using for loop within column number. Then with while loop adding these Maps to the List of Map.

```java
public static List<Map<String, Object>> getQueryResultMap(String query) {
    executeQuery(query);
    List<Map<String, Object>> rowList = new ArrayList<>();
    ResultSetMetaData rsmd;
    try {
        rsmd = resultSet.getMetaData();
        while (resultSet.next()) {
            Map<String, Object> colNameValueMap = new HashMap<>();
            for (int i = 1; i <= rsmd.getColumnCount(); i++) {
                colNameValueMap.put(rsmd.getColumnName(i), resultSet.getObject(i));
            }
            rowList.add(colNameValueMap);
        }
    } catch (SQLException e) {
        // TODO Auto-generated catch block
        e.printStackTrace();
    }
    return rowList;
}
```

14/02/2021 Alumni Mentor Questions

- How do you manage your work to reach to deadline? bug leakage
- How do you handle conflict?
- What is your strength? (detailed, dedicated, commited team member)
- Do you have a current job?(end contrat, usa time difference)
- Why should we hire you? (job description-resume matching,soft skills, extremly-motivated, problem solver)
- How do you evaluate with yourself in Java out of 10? core java, no blocker,
- What is your future plan? expert on automation test
- What is your accomplishment? %10 percent discount,

Why do you need Cucumber Options?

- @CucumberOptions annotation provides the same options as the cucumber jvm command line. for example: we can specify the path to feature files, path to step definitions, if we want to run the execution in dry mode or not etc.

How do we run failed test cases?

- We use the re-run option in the CukesRunner.
- Add the rerun to cukes runner.
- This option will create a file with a list of failed tests
- Create a second runner class which points to file with a list of failed tests
- Add the second runner in the pom file

06/03/2021 Review Session Q/A

- How do store your data?↠Resultset, List of Maps
- What is EC2?↠Virtual machine running in AWS servers.
- Connection string?↠ Keeps information which database you are connecting.
- How do you connect database? ↠ I need domain and IP address, username/password.Connection↠Statement-(execute queries)>Resultset(store the datas).
- How can we able to scroll up and down over the rows? ↠ Resultset.TYPE_SCROLL_INSENSETIVE
- How do you implement parallel testing in Cucumber? ↠plugins:cucumber-jvm-parallel-plugin, maven-surefire-plugin, run:mvn verify

How do you get the reports in Cucumber?

- My framework generates cucumber reports folder in the target folder which contains the reports.
- When we run the tests on Jenkins, Jenkins saves the report of every run.
- Home page of the Jenkins job always points to the last run reports.
- All the reports for previous runs can be found under the build number.
- Go to target folder
- Open with system explorer
- Go to target>cucumber report>index shows the tests you ran

Difference of SOAP and REST Api?

No.	SOAP	REST
1)	SOAP is a **protocol**.	REST is an **architectural style**.
2)	SOAP stands for **Simple Object Access Protocol**.	REST stands for **REpresentational State Transfer**.
3)	SOAP **can't use REST** because it is a protocol.	REST **can use SOAP** web services because it is a concept and can use any protocol like HTTP, SOAP.
4)	SOAP **uses services interfaces to expose the business logic**.	REST **uses URI to expose business logic**.
5)	**JAX-WS** is the java API for SOAP web services.	**JAX-RS** is the java API for RESTful web services.
6)	SOAP **defines standards** to be strictly followed.	REST does not define too much standards like SOAP.
7)	SOAP **requires more bandwidth** and resource than REST.	REST **requires less bandwidth** and resource than SOAP.
8)	SOAP **defines its own security**.	RESTful web services **inherits security measures** from the underlying transport.
9)	SOAP **permits XML** data format only.	REST **permits different** data format such as Plain text, HTML, XML, JSON etc.
10)	SOAP is **less preferred** than REST.	REST **more preferred** than SOAP.

How do you implement parallel testing in Cucumber?

- -Parallel Testing means you execute your test cases against more than one browsers at the same time. We can do it just either on our local computer or inside our EC2 machine which is our virtual machine that works on the server we have on AWS. For remote parallel execution, we need to use Selenium Grid (Selenium Hub – Node relation)
- -First of all we need Singleton Driver, so we modify our Driver Class by using InheritableThreadLocal class and we create a driverpool object from it. This class acts a driver bag that gives us a separate Singleton Driver object for each of our test execution thread from different feature files.
- -The number of the browsers that is gonna open at the same time is based on the number of feature files being included in our execution

How do you get the reports in Cucumber?

-First we should add “json:target/cucumber.json” to inside the plugin we have in our CukesRunner class to generate a json file at the end of the execution as a source of the fancy Cucumber reports.

-We need to execute our test cases by clicking the verify from Maven and Maven will follow the way that we have in our pom.xml and will find the .json file if it exists under the maven-cucumber-reporting plugin.

What is serialization and deserialization and how do you implement them?

- De-serialization ↠ convert your JSON to Java Collection
- Serialization ↠ convert your Java Collection to JSON
- We can implement deserialization with RestAssured .as() method
- We can implement serialization with RestAssured .body() method

What is 3 point/layer verification in Testing?

- testing UI
- verifying data through API and
- Database

What is difference between Accept and Content-type

- Accept indicates what kind of response from the server the client can accept. Content-type always is about the content of the current request or response. So if your request has no payload, you don't use a content-type request header.

03/14/2021 Alumni Mentor Session

- Do you know SQL?
- Database Schema?
- What kind of Database testing are you doing?
- RDBMS
- CREATE , ALTER, DROP, TRUNCATE, ELECT, DELETE, INSERT, UPDATE
- What are constraints?
- Data types in SQL?

Do you know SQL?

- Structured Query Language. Used for managing and manipulating data in db.
- Yes, I am very comfortable with writing SQL Queries and DDL and DML commands.
- Currently working with Oracle database that is running in AMAZON CLOUD SERVER.

Database Schema?

- It is like a diagram with all tables and column names, data types and PK, FK and how tables are related to each other

What kind of Database testing are you doing?

- I am mostly doing Database validations.
- I make changes or insert data (create loan) in the front end and validate in the database. Data in front end matches the DB
- I also make changes using RESTapi and verify that changes are successful in Database as well.

What is RDBMS?

- Relational Database Management System
- Data is organized into tables that are related to each other
  - How are they related?
    - Primary Key (unique and not NULL) and Foreign Key (duplicate and NULL)
  - What type of database system you have expertise with?
    - RDBMS, such as SQL and Oracle

CREATE , ALTER, DROP, TRUNCATE, ELECT, DELETE, INSERT, UPDATE?

DML command actions can be restored.	DDL command actions **cannot** be restored / undone.
Commands: • **SELECT** from tablename; (read) • **INSERT** into tablename values (...); (add) • **UPDATE** tablename SET value WHERE location; • **DELETE** from tablename WHERE location; (rows) • **MERGE**	**Commands**: • **CREATE** table tablename (column1, column2 ...); • **ALTER** table tablename modify value; • **TRUNCATE** table tablename; (delete whole table data) • **DROP TABLE**; (delete whole table with structure) • **RENAME** • **COMMENT**

What are constraints?

- Properties that table column must comply with.
- Columns have constraints that defined how data can be stored.
    - Primary Key: unique and NOT NULL
    - Foreign Key: duplicate and NULL and cannot add data which is not in PK
    - Unique Key: only unique value
    - Null: can have null
    - Not null: cannot have null

Data types in SQL?

- Number
- Integers
- char ↠ char(20): 20 years spaces are taken from memory
- varchar ↠ varchar(30): 5 spaces from memory varchar2
- boolean
- date
- currency

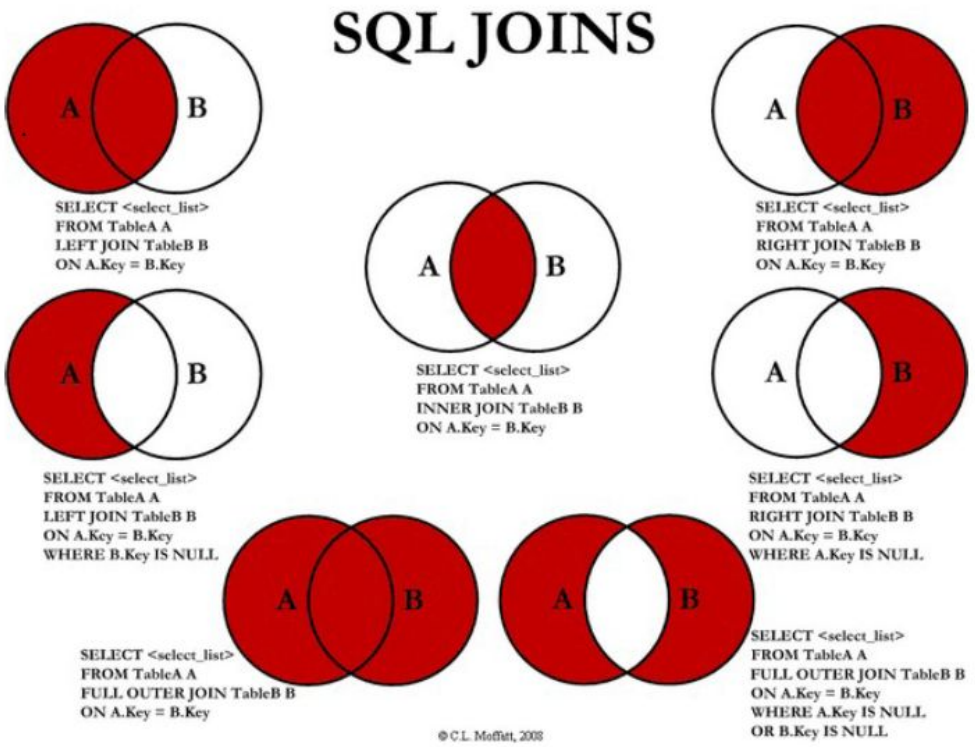
JOINS?

JOIN (INNER) JOIN
is used when retrieving data from multiple tables and will return only matching data

LEFT (OUTER) JOIN
is used when retrieving data from multiple tables and will return left table and any matching right table records.

RIGHT (OUTER) JOIN
is used when retrieving data from multiple tables and will return right table and any matching left table records.

FULL (OUTER) JOIN
is used when retrieving data from multiple tables and will return both table records, matching and non-matching



What is the difference between put and post?

- POST:
  - Creates new data first time.
  - Returns 201 mos of the time (%99)
- PUT:
  - Updates the existing data
  - Return 200 or 204 (up to developers)

What is the difference between put and patch?

- PUT:
  - Needs to send all the paramaters to update even if we only update one of them.
- PATCH:
  - Can only send the parameters that we want to update , no need to send rest of the keys.

How do you test API?

- I verify if each REST API endpoint is working as expected
- I use POSTMAN for manual API testing and use RESTASSURED library in Java for automation
- I send POST,PUT,GET, DELETE type of requests and verify response status code and response body, header
- I also do positive and negative testing of API
- When I do positive testing, I send valid request parameters , valid headers, valid request json body and verify that response status code is 200 successful and Json response body data is also matching the expected
- When I do negative testing, I send invalid request parameters , or invalid headers, or invalid request json body and verify that response status code is not 200 and Json response body contains error message

20/03/2021 Review Session

- How do you send post request with restassured library?
  - Create a Request pointing to the Service Endpoint
  - Create a JSON request which contains all the fields
  - Add JSON body in the request and send the Request
  - Validate the Response
- Which methods are used for serialization and deserialization?
  - body()↠serialization
  - as()↠deserialization
- Do you know metadata? Have you ever used in your JDBC connection?
  - MetaData Data about Data
    i. ResultSetMetaData rsmd = rs.getMetaData();
    ii. int columNum=rsmd.getColumnCount();

Can you automate desktop application with Selenium?

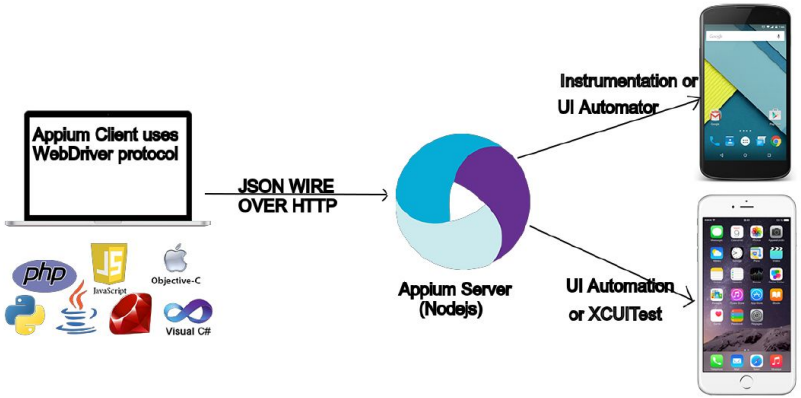
No. You can automate only web-based application with Selenium, but if you integrate Robot Framework then you could.

What is Desired Capabilities. How do you use them?

- They are a set of keys and values (i.e., a map or hash) sent to the Appium server to tell the server what kind of automation session we are interested in in starting up. (Android/IOS, environment/version/framework, app)
- https://appium.io/docs/en/writing-running-appium/caps/

How does Appium work?

1. From Web-driver, Automation Commands are sent in form of JSON via HTTP request to Appium Server.
2. Appium Server invokes Vendor specific mechanism to execute those commands on the Mobile-Device.
3. Client sends back the message to the Appium Server.
4. Appium Server logs the result in the console of the Web Driver.



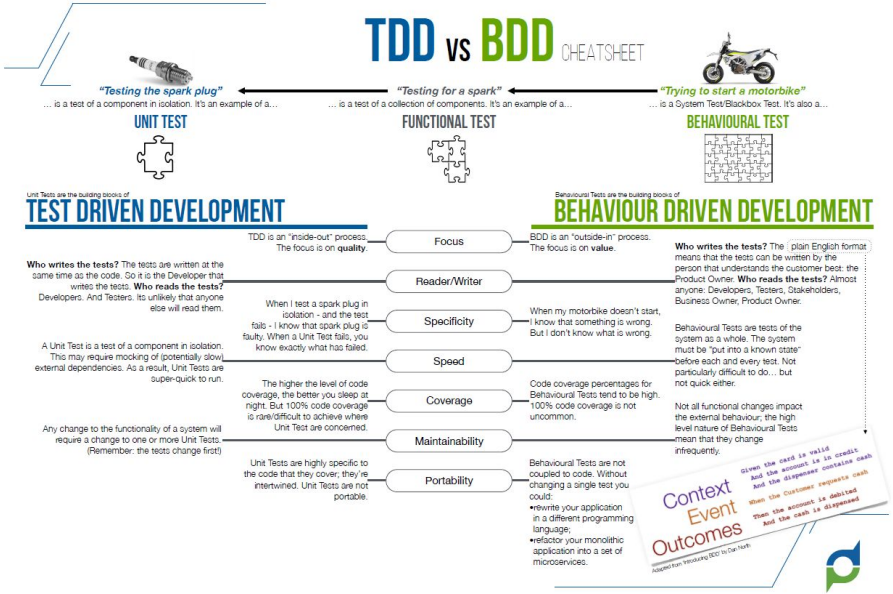
How many bugs you are catching weekly/In last sprint how many bugs did you find ?

- It depends. For example last sprint, we didn’t have dependency, so I didn't have any bug. I remember one case 3 sprints before we were working on different components, we were in rush at that moments, I remember I found several bugs. Some of them were critical.

What is BDD and TDD?

- **TDD - Test Driven Development** : Writes test first, which will fail, then code to fix test

- **BDD – Behavior Driven Development :** Builds on TDD and specifies that tests of any unit software should be specified in terms of desired behavior of the unit



What is BDD vs TDD?

TDD	BDD
Stands for Test Driven Development	Stands for Behavior Driven Development
The process starts by writing a test case	The process starts by writing a scenario as per the expected behavior
TDD focuses on how the functionality is implemented.	BDD focuses on the behavior of an application for the end user.
Test cases are written in a programming language.	Scenarios are more readable when compared to TDD as they are written in simple English format.
Changes in how the application functions impact a lot on the test cases in TDD.	BDD scenarios are not much impacted by the functionality changes.
Collaboration is required only between the developers.	Collaboration is required between all the stakeholders.
Some of the tools which support TDD are: JUnit, TestNG, NUnit, etc.	Some of the tools which support BDD are SpecFlow, Cucumber, MSpec, etc.
Tests in TDD can only be understood by people with programming knowledge	Tests in BDD can be understood by any person including the ones without any programming knowledge
TDD reduces the likelihood of having bugs in your tests.	Bugs in tests are difficult to track when compared to TDD.

Can you talk about your experience with continuous integration/continuous deployment , what is the current tool you are using to implement CI/CD ? What are the benefits of CI/CD?

- CI/CD is stands for Continuous Integration and Continuous Delivery or Continuous Deployment. The logic of behind is evaluating the software development cycle process as a flow. In that flow we have 4 main stages. What are these stages: Version Control ↠ Testing Environment, Staging Environment and lastly Production Environment. This implementation is also known as the CI/CD pipeline.
- In this flow, CI refers to the process in which developers continuously push their codes to the main source repository. In this stage unit test and Integration test are done. Developers get the result of their codes which are built and deployed to the Testing Environment. We can say It gives the green light to go further in development cycle.
- CD refers to the process in which automated tests like Smoke Test and Regression Test are done by testers. As a tester our responsibility starts in that point. Then product will be automatically pushed to the Staging Environment. After CD process, the software is deployed to Production Environment automatically. And so we call this whole process as Continuous Deployment.
- In my company to implement CI / CD, we use Jenkins and Github. But I have to say that I am not responsible for CI/CD. We have a Devops team and for my current project they set it up and do the configuration about CI/CD. They build the pipeline and make us to develop the software in an efficient way. As a tool we choose Jenkins because its flexibility and the number of plugins that it support. I have experience in building and scheduling my Smoke Test and Regression Test by using Jenkins on EC2 machine and sending reports to all my team members as an email for everyday.
- If we talk about advantages of CI/CD we should start with the reducing the risk. It makes deployment process easier and faster. With continuous building process the developers can easily find the broken codes and fix it. They don't need to check all the code structure. This reduce the cost and save a lot of wasted time.
- The main advantages I think is increasing quality. With this automated system. testers have time to focus on importing testing phases like exploratory, usability, security and performance testing. All of these make product release perfectly.

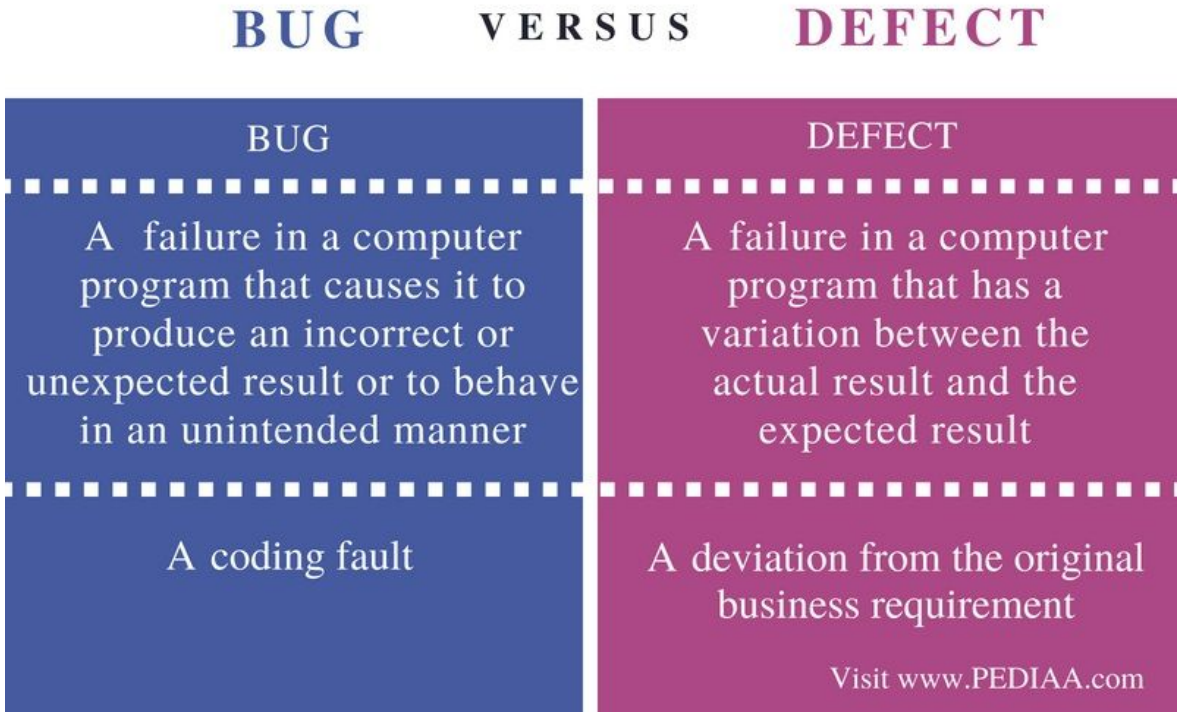
How do you run your regression?

- We can define Regression testing as a type of test which is implemented when there is any new functionality added or any bug fixed or any change made in the code. The main purpose in here to make sure that these changed on our software wouldn't break the other existing functionalities.
- In agile, there are frequent build cycles and many changes are added the application. This changes makes regression testing essential. In my company I am responsible for regression suit in our project.
- In my work environment I use two types of Regression. First one is Minor regression that I run just before the end of each Sprint and the second one Major Regression that I run just before each release time. I am running Minor Regression for the purpose of not facing any surprise about the new functionality. I am running my Major Regression on my Virtual Machine at the night time by creating a job on the Jenkins. Sometimes I am using parallel testing to run in multiple browsers at the same time using Selenium Grid to decrease the execution time.
- In my Regression suit I have 700 test cases and it takes almost 6 hours to run it. For my Major Regression at least 90% test cases should pass. If not I would manually try to reproduce the defect with my colleagues and if we can reproduce twice I would log the defects and report to the developer team.

How did you do API testing?

- API which stands for Application Programming Interface is a small piece of code that enables different applications and services to communicate and share information with each other. It is also called as Web Service. I consider API as waiter in a restaurant bringing the meal to customer between the client and DataBase.
- There are two types of API which are REST and SOAP API and I use REST API for my API Testing mostly dealing with JSON files as Data Storage Language, I don't use SOAP but I know that it accepts the XML codes. How do I do my API Testing?
- I verify if each REST API endpoint is working as expected based on the swagger which is just a tool for the documentation of my API
- I use POSTMAN for manual API testing and use REST Assured library in Java for automation, but I am also capable of using Postman for automation purpose by using the JavaScript snippets which provide Chai Assertion Library under the Tests tab of my request. So I can create my Regression Suit as a collection in Postman.
- I send POST, PUT, GET and DELETE type of requests and firstly verify response status code, then response body and header
- I also do positive and negative testing of API
- When I do positive testing, I send valid request parameters, valid headers, and valid request json body and verify that response status code is 200 successful and Json response body data is also matching the expected.
- When I do negative testing, I intentionally send invalid request parameters , or invalid headers, or invalid request json body and verify that response status code is not 200 and Json response body contains error message.

What is the difference between Bug and Defect?



Which access modifiers are allowed to give a class?

- public and default
- public class name should be the same with upper name.

How can you print “Hello World” without using semicolon?

- We can print with if and while statement by using append and printf methods.

```
if (System.out.append("Hello World")!=null){}
```

```
if(System.out.printf("Hello World")==null){}
```

```
while(System.out.append("Hello World")==null){}
```

What is synchronized,thread, process, multi-thread?

- Synchronized : thread-safe ⇻ one thread at a time
- Thread: subsequence of a process
- Process: Every single app which is running
- Multi-thread: Multiple threads are being executed.

What is the difference between String, StringBuilder, StringBuffer?

- String is immutable whereas StringBuffer and StringBuilder are mutable classes.
- StringBuffer is thread-safe and synchronized whereas StringBuilder is not. That's why StringBuilder is faster than StringBuffer.
- String concatenation operator (+) internally uses StringBuffer or StringBuilder class.
- For String manipulations in a non-multi threaded environment, we should use StringBuilder else use StringBuffer class.

Can you overload main method?

Yes, main method can be overloaded. Overloaded main method has to be called from inside the "public static void main(String args[])" as this is the entry point when the class is launched by the JVM. Also overloaded main method can have any qualifier as a normal method have.

```
class A{

   public static void main(String[] args) { System.out.println("String array"); }

   public static void main(int[] arg) { System.out.println("int array"); }

   public static void main(String arg) { System.out.println("String"); }
```

How can you stop the execution of finally block?

- You can only stop by terminating entire system.

```
try{
    System.out.println(10/0);
}catch (ArithmeticException e){
    System.out.println("Catch Block");
    System.exit( status: 0);  // to prevent finally block from being executed
}finally {
    System.out.println("Finally block");
}
```

Selenium / Cucumber Short Q/A

- How do you handle with web elements↠with locators
- Which locator do you use mostly to handle list of web elements↠class
- What is the difference between absolute and relative xpath↠absolute:starts from the root(HTML tag),starts /;relative:directly jump to element, starts //.
- How many ways for indexing in xpath?↠2
- How do you connect with Excel files↠Apache Poi library:Excel Util, ready methods
- How do you handle with dropdowns?↠select tag, select class else regular webelement procedure
- How do you hover over your mouse with Selenium↠Actions class
- properties file↠centralize controlling; pom↠maintaining test cases, reusability;Singleton↠address same driver object
- How do you get reports with TestNg?↠ExtentReport plugin
- Scenario Outline↠same test case with different test data
- Disadvantage of Cucumber↠not proper for Excel Files
- 3 point check↠UI + DB + API

SQL/API Short Q/A

- Foreign Key↠ constraint is used to prevent actions that would destroy links between tables.
- Primary Key↠constraint uniquely identifies each record in a table.
- Distinct↠ statement is used to return only distinct (different) values.
- Like↠operator is used in a WHERE clause to search for a specified pattern in a column.
- how to find top 5 employees who is making highest salary↠
  select*from (select * from employees order by salary desc) where rownum<6;
- how to find 16th highest salary↠ select min(salary) from (select*from employees order by salary desc) where rownum<17;
- find firstname lastname salary for 16th highest salary↠
  select first_name, last_name, salary from employees where salary =(select min(salary) from (select*from employees order by salary desc) where rownum<17);
- how to find who is making above the average salary↠ select * from employees where salary > (select avg(salary) from employees);

Why we should hire you?

- First of all, I've done thorough research into this position and have read your job description, I can CONFIDENTLY say that I'm well qualified for this position. I have all the technical and non-technical expertise.
- I always bring new techniques and tools that help to jump forward to the company that I worked for. For example as I understand from job description you use Cucumber for you API Testing. I have strong knowledge and experience with Cucumber but I have also experience with new popular Karate framework. I can be useful to switch to framework if requested.
- Many people can train in any technical skill within a short time but improving the communication skills can be incredibly difficult. I have such skills in abundance: I'm an excellent communicator, extremely motivated AND motivating, and above all, I am the very definition of a problem solver. Whatever it is that needs to be done to accomplish my job and more, I WILL DO IT.
- I think you should hire the candidate that has the best qualifications for this position. Of course I don’t know the other candidates, I can represent only myself. I think my experience and technical expertise will bring a lot of values and benefits to the company and the project. I think that’s why you should hire me.

What are you expecting from our company?

- First of all, I want to specialize in my job for automation purposes and to be honest I don't want my ability of automation to be diminished. So I expect you to give me a kind of responsibility to be able to improve my automation skills. As you know, losing your skills on especially coding is so much easy in a smaller time if you do not practice it permanently.
- My other expectation would be to provide a good working environment to improve myself and my team simultaneously about both for the technical and social parts of our personalities. So in such a good atmosphere, I think I and my team members could be contributing a lot to the company and to each other as a team