Core JAVA Workshop : QIS

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**Core JAVA Interview Quotations?**

**OOPS**

1. **What is OOPS Concepts?**

OOPS is a concept. It has mainly 4 pillars and those Encapsulation, Inheritance, Polymorphism, Abstraction.

1. **What is Encapsulation?**

Encapsulation is a mechanism. In which Binding attributes and Methods together in a class and object creation.

1. **What is Inheritance?**

Reusability of existing Functionalities from Super class to Sub class.

We use “extends” keyword.

Multi-level inheritance is support at class level

Multiple Inheritance is not supported at class level but support at interfaces.

1. **Can you explain about Polymorphism?**

Poly mean Many. Morphism means Forms/Techniques. There Is 2 types Compile Time and Run Time. Compile time is Method Over Loading and Run Time is Method Overriding.

1. **Can you tell me difference between Overloading and Overriding?**

In Overloading the parameters are deferent, return type may or may not be same and execute in same and super class.

Where as in Overriding parameters are same, return also same and executes in 2 different classes.

**Constructor**

**1. What is Constructor?**

Constructor is a special method, its name should be same as Class name.

**2. How may types of constructor?**

There are 2 types of Constructors and those are Default Constructor and parameter Constructor.

**3. What is main purpose of constructor?**

The main purpose of constructor is for initialization. there no need of object reference creation. While creation of object constructor is initialised.

**4. Can you tell me difference between constructor & method.**

Constructor name should be same as class name , it is called implicitly and it doesn’t have any return type Even void also.

Method name have anything except class name, it is called explicitly and it may have return type or not.

1. **Constructor has any return type?**

No, Constructor don’t have any return type not even void also.

1. **Every class need constructor or not ?**

Yes, every class need a constructor. If we are not creating constructor Compiler creates the constructor.

**Static**

1. **What is static?**

Static is a key word. We can declare variables and methods as static.

1. **What is advantage of static?**

No need of creating object to initialize variable and methods. We can

Initialize using classname.varname and cname.methodname.

So, the space/memory is reduced.

1. **Can you declare as static variable and static methods and What is advantage ?**

Yes, we can declare. The main advantage is we can initialize without creating object. So it consumes less Memory.

1. **Can you call Static methods and static variable in static method?**

Yes, we can call Static methods and Static variables in Static Method.

1. **Can you call non static methods and static variable in static method?**

We can call static variables in static methods but we cannot call non static methods in static methods.

1. **Can you call non static method and static variable in non-static method?**

Yes, we can call non static methods and static variable in non-static method.

1. **What is static block?**

Whenever the class is loaded into the JVM the static block is initialized firstly.

**Final**

1. **What is final?**

Final is a key word. We can declare class, method, variable as final.

1. **Can you modify final variable?**

No, we cannot modify the final variables.

1. **Can you override final methods?**

No, we cannot override the final methods.

**4. Can you Inheritance final class?**

No, We cannot Inheritance final class.

**Interface**

1. **What is Interface?**

interface is a keyword.it has method signature only.

1. **Can you create object to Interface?**

No, we cannot create object to the interface.

1. **Can you create reference to Interface and advantage?**

Yes, we can create reference to the Interface. Through reference we can only call interface methods. when we only need interface methods then we go for reference.

**4. Can you declare to variable in interface and what is advantage?**

Yes, we can declare variable in interface. When we declare variable in interface it is by default public, static, final we cannot modify it.

**Abstract class**

1. **What is Abstract class?**

Abstract class having both abstract methods and non-abstract methods (Implementation methods).

1. **Can you create Object to abstract class?**

No, we cannot create object for abstract class. Because it is not fully implemented.

**3. Can you create constructor to abstract class?**

Yes, we can create constructor to abstract class by using object reference we can initialize.

**Exception Handling**

1. **What is Exceptions?**

Exception is the super class of checked and unchecked exception. Throwable is the super class of Exception.

Exceptions are mainly used to protect our business logics.

1. **Can you tell me difference between Checked exceptions and Unchecked Exceptions?**

Checked exceptions are Compile time exceptions those are not under our control.

Unchecked Exception are Runtime exceptions those are under our control. By using try, catch().

1. **Keywords of Exceptions?**

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

1. **What is finally keyword?**

finally, block is always executed whether the Exception occurred or not.

1. **What is difference between throws and throw?**

throws is a checked Exception

Throws is executed layer by layer and used to throw raised exceptions.

throw is a Unchecked Exception

throw is used for user defined exceptions. throw will give the mechanism of Exception.

1. **What is hierarchical of Exceptions?**

Checked and Unchecked exceptions extends Exception class and Exception extends Throwable class and Throwable extends Object class.

**7. How do you write user defined exceptions?**

We can defined user defined exceptions using throw key word.

The user defined exception extends the Exception class.

**Multithreading**

1. **What is Multithreading?**

Multiple threads are running simultaneously to reduce CPU’s Ideal Time.

1. **What is Thread?**

Thread is a light wait process. It is running on separate individual path.

1. **What are the stages in thread?**

There 5 stages NewBorn, Runnable, Running, Blocked and Dead stages.

1. **Which is super class Thread class?**

Object class is the Super class of Thread class.

1. **What is isAlive () method in threading?**

It is checked whether the thread is running or not. If it is running it gives True otherwise false.

1. **What is Yield () method in threading?**

Yield () is a Thread class method. If a thread is completed their work or stopped due to any reasons the remaining time is give to the next priority thread.

1. **What is join () method in threading?**

Join method is used to wait the super class if it has a relationship with the sub class. It will wait until the sub class method to complete their work.

**8. How many ways to create to Thread?**

There are 2 ways of creating a thread

1.extends Thread (Class)

2.implements Runnable (Interface)

**Strings:**

1. **What is String?**

String is Super class. It has predefined methods. String is Immutable.

1. **Why Strings are immutable?**

Once we create any string object it is a constant. If we are trying to modify existing string it will allocate a new memory location. The existing String is eligible for Garbage collector.

1. **Difference between String and StringBuffer , StringBuilder?**

String:

Immutable (Dis) and non-Synchronized (Adv).

StringBuffer ():

Mutable (Adv) and Synchronized (Dis).

StringBuilder ():

Mutable and Non-Synchronized.

**Collection Framework**

1. **What is Collection Framework?**

Collection frame work is a predefined framework. It is present in java.util.Collection.

1. **what is package of Collection framework?**

util is the package of Collection. It is java.util.Collection.

1. **What is Set?**

Set is an interface it extends Collection interface.

It allow different types of data, growing the size, and have Business logic Method and it stores elements randomly and doesn’t allow Duplicates.

1. **What is List ?**

List is an interface it extends Collection interface.

It allows different types of data, growing the size, and have Business logic Method and it stores elements in ordered and allow Duplicates.

1. **Can you tell me difference between Set List?**

Both are extends Collection interface and allows different types of data, growing the size, and have Business logic Method.

But Set stores elements randomly and doesn’t allow duplicates.

Where as list stores elements in ordered and allow duplicates.

1. **What is HasSet?**

HashSet implements Set interface and methods are non-synchronized. It is unsorted.

1. **Can you tell me difference between ArrayList and Vector**

In Vector all methods are synchronized so it is legacive API. And it growing the size by Double (size\*2).

In ArrayList all methods are non-Synchronized, it growing the size by half(size/2).

1. **What is Iterator?**

Iterator is used to retrieve the elements from object class.

And it retrieves only in forward direction

We create the Iterator like this

Iterator i = reference.iterator();

hasNext ()-checks whether the next element has value or null.

i.next() – gives the value of i

it has add remove method.

1. **What is ListIterator?**

ListIterator is used to retrieve the elements from object class.

And it retrieves either forward or backward direction.

hasPrevious() – Go for backward direction and checks the previous elements has value or null.

previous() – gives the previous value.

It has remove and add methods.

**10.Can you tell me difference between Iterator and Enumeration?**

In Enumeration all methods are Synchronized so it is legacive.

In Iterator all methods are non-Synchronized and it has remove method.

1. **What is Generics in Collection Framework?**

When we performed on same data then better to use generics and by using enhanced for loop we can retrieve the data.

ArrayList<Integer> d=new ArrayList<Integer>();

for(Integer i:d){

s.o.p(i) }

**12. What is Map?**

Map is an Interface. It stores the data in key value pairs. There are to sub classes HashMap and Hashtable.

**13. What is HashMap?**

HashMap is an class it implements Map interface. It allows null values and null keys.

All methods are non-synchronized.

**14. What is Hashtable?**

Hashtable is an class it implements Map interface. It doesn’t allow null values and null keys.

All methods are synchronized so it is legacive.

**15. can you tell me difference between HashMap and Hashtable?**

HashMap allows null values and null keys and All methods are non-synchronized.

Hashtable doesn’t allow null values and null keys and All methods are synchronized so it is legacive.

**16. What is ArrayList ?**

ArrayList is class it implements List interface. It stores elements in ordered.

ArrayList all methods are non-Synchronized, it growing the size by half(size/2)

**Total : 63**