Java Questions

1 Q: What are the four fundamental concepts of java?

a. Abstraction
b. Inheritance
c. Polymorphism
d. Encapsulation

2 Q: What is Class?

Class is a blueprint of its object. It has state and behavior.(by state we mean variable and by behavior we mean method.)

its describe state and behavior of that object.

3 Q: What is variable?

Variable is name of memory location.example:int a(variable name)=5;

4 Q: What is local and global variable?

Local variable:Local variables are declared in methods, constructors, or blocks. Global variable declared outside the method inside the class. Global variable also known as Instance variable.

5 Q: What is object?

Object is an instance of a class.

6 Q: What is method?

Collection of statements which grouped together to perform an operation.

7 Q: What is datatype?

Data type is a set of data with having predefined characteristics.Data type also gives some space in memory.

There are two kinds of data type:

1: Primitive

Ex:byte,short,int,long,float,double,character, boolean.

2: Referenced / Non-primitive:

Ex:String,Integer

{103 Q: What are wrapper classes? Ans:Java provides specialized classes corresponding to each of the primitive data types. These are called wrapper classes. They are example: Integer, Character, Double, Boolean etc. 8 Q: What is javac and jvm, jdk jre ? Javac means java compiler which compile java code Jvm means java virtual machine which execute class file or machine language in order to get result of program. Jdk means java development kit which helps to build the program. Jre means java runtime environment which helps to run project. 9 Q: What is modifier?How many type of modifier are there and what are those? A modifier is a keyword placed in a class, method or variable declaration that changes how it operates. Modifier are two kinds: 1: access modifier: It gives us access level of

class, methods, variable. There are some different access level based on package and to create an object or inherite. access modifier are 4 kind. a. default b. public c. protected d. private Creating an object in same package: public and default can access. Protected and private can not access. By inheritance in same package : all access modifier can access except private. How to access private variable: By using getter setter method(getter mean read, setter mean write) example: private int a=8; int getA(){{{{{{{{{{

return a;

}

int setA(int x){

a=x;

return a;

}

2. Non-access modifier:

Non access modifier are three kinds:

a. final

b. static

c. abstract

Example:

a. Final:

If you declare a class as a final you can not inheritance but you can create an object. if you declare variable as a final you just can use it but you can not change. if you declare method as a final you can not override.

b. static:

you cannot declare static in a class level.

if you declare variable as a static that will work with change value and you can access that with class name. if you declare method as a static you can overload that method but you can not override.you can call that with class name and only can take static property.

c. abstract:

If you declare class as a abstract you can not create object but u can inherit. abstract class can take abstract and non abstract method

Access Modifier: Access modifier works with access level. That means if we want to give access to others or not then we use access modifier Rules: For same package rules are the same when we create an object or inherit In different package if we create an object then we can only access public. If we inherit/extends we can access public and protected Public: same package: Yes different package: Yes Protected: same package: Yes different package: Yes (only when we inherit/extends) Private: same package: No different package: No Default: same package: Yes different package: No

10 Q: D**ifference between instance and class variable?**

1. When you declare a variable with static keyword in a class level that called class variable.
2. When you declare a variable in a class level without static keyword is called instance variable.

11 Q: What is static variable ? Tell me the benefit of static variable?

When you use static keyword before any variable that is called static variable. you cannot declare static in a class level. if you declare variable as a static that will work with change value and you can access that with class name. if you declare method as a static you can overload that method but you can not override. you can call that with class name and only can take static property. Static variable makes your program memory efficient (i.e it saves memory).

12 Q: How to divided a string?

String s="how are you";

String s1[]=s.split(" ");

13 Q: How to compare between two string?

String s="how";

String s1="are";
s.compareTo(s1);

it will return int value -

0- if both are equal

(+) positive int - first object is greater than the second one

(-) negative int - first object is less than the second one

14 Q: What is the difference between string and string-buffer?

The main difference between String and StringBuffer is string is immutable and StringBuffer is mutable

15 Q: What is the syntax for For Each loop / Enhanced Loop?

When we do not know the size / length (condition) then we should use For Each loop:

int a[]={4,6,5,9,8};

for(int x:a)

{

}

16 Q: What is array? Why we need an array?

Array is a container which hold same type of value and fixed size. When you need more than one value in a same variable .

17 Q: Can u tell me how to get max or minimum number from an array?

int a[]={4,76,4,8,9};

int max=a[0];

for(int i=1;i<a.length;i++){

if(a[i]>max)//if u just say a[i]<max tahole

minimum number paben.

{

```
            max=a[i];
        }
    }
    syso(max)
```

18 Q: How to get a private variable in another class?

By using getter setter method(getter mean read, setter mean write)

Example:

```
private int a=8;

int getA()
{

return a;

}

int setA(int x)
{

a=x;

return a;

}
```

19 Q: How to get an array as a descending order or ascending ?

```
Ans:int a[]={6,8,7,9,4};

Arrays.sort(a);

for(int i=0;i<a.length;i++)
{

   syso(a[i]);

}

for(int i=a.length-1;i>=0;i--)
{

   syso(a[i]);

}
```

20 Q: What is the most important feature of Java?

Ans: Java is a platform independent language.

21 Q: What do you mean by platform independence?

Platform independence means that we can write and compile the java code in one platform (eg Windows) and can execute the class in any other supported platform eg (Linux,Solaris,etc) because of JVM which actually helps to do that..

22 Q: What is a JVM?

JVM is Java Virtual Machine which is a run time environment for the compiled java class files.

23 Q: What is the difference between a JDK and a JVM?

JDK is Java Development Kit which is for development purpose and it includes execution environment also. But JVM is purely a run time environment and hence you will not be able to compile your source files using a JVM.

24 Q: What is the base class of all classes?

Ans: Object

Few methods of Object class : finalize(), notify(), notifyAll(), equals(), wait(), wait(x), wait(x, y), getClass(), hashcode()

25 Q: Does Java support multiple inheritance?

Ans: No,Java doesn't support multiple inheritance.

26 Q: Is Java a pure object oriented language?

Ans: Java uses primitive data types and can not inherite more than a class that why java is not a pure object oriented language.

27 Q: Are arrays primitive data types?

Ans: No,In Java Arrays are objects.

30 Q: How to define a constant variable in Java?

Ans: The variable should be declared as static and final. So only one copy of the variable exists for all instances of the class and the value can't be changed also.

Example:

static final int MAX_LENGTH = 50; is an example for constant.

31 Q: Should a main() method be compulsorily declared in all java classes?

Ans: It is not required for all classes but we need a class with main() method at least once to execute our project.

32 Q: What is the return type of the main() method?

Ans: Main() method doesn't return anything hence declared void.

33 Q: Why is the main() method declared static?

Ans: main() is called by the JVM even before the instantiate of the class hence it is declared as static.

34 Q: What is the argument of main() method?

Ans: main() method accepts an array of String object as argument.

35 Q: Does the order of public and static declaration matter in main() method?

Ans: No. It doesn't matter but void should always come before main().

36 Q: Can a source file contain more than one class declaration?

Ans: Yes a single source file can contain any number of Class declarations but only one of the class can be declared as public.

37 Q: What is a package?

Ans: Package is a collection of related classes and interfaces.

38 Q: Which package is imported by default?

Ans: java.lang package is imported by default even without a package declaration.

39 Q: Can a class declared as private or protected?

Ans: Not possible.

40 Q: What is the purpose of declaring a variable as final?

Ans: A final variable's value can't be changed. final variables should be initialized before using them.

41 Q: What is the impact of declaring a method as final?

Ans: A method declared as final can't be overridden. A sub-class can't have the same method signature with a different implementation.

42 Q: I don't want my class to be inherited by any other class. What should i do?

Ans: You have to declared your class as final because final class cannot be inherited.

43 Q: Can you give few examples of final classes defined in Java API?

Ans: java.lang.String, java.lang.Math are final classes.

44 Q: How is final different from finally and finalize()?

Ans: Final is a Non Access Modifier which can be applied to a class or a method or a variable. Final class can't be inherited, final method can't be overridden and final variable can't be changed.

Finally is an exception handling code section which gets executed whether an exception is raised or not by the try block code segment.

Finalize() is a method of Object class which will be executed by the JVM just before garbage collecting object to give a final chance for resource releasing activity.

45 Q: Can a class be declared as static?

Ans: We can not declared top level class as a static, but only inner class can be declared as static.

Example:

```
public class Test

{

static class InnerClass

{

//is called inner class

}

}
```

46 Q: When will you define a method as static and what is restriction?

Ans: When a method needs to be accessed even before the creation of the object of the class then we should declare the method as static. A static method should not refer to instance variables without creating an instance and cannot use "this" operator to refer the instance.

47 Q: What is the importance of static variable?

Ans: Static variables are class level variables where all objects of the class refer to the same variable. If one object changes the value then the change gets reflected in all the objects and can be called by class name.

48 Q: Can we declare a static variable inside a method?

Ans: Static variables are class level variables and they can't be declared inside a method. If declared, the class will not compile.

49 Q: What is an Abstract Class and what is it's purpose?

Ans: A Class which doesn't provide complete implementation is defined as an abstract class. Abstract classes enforce abstraction and can not create an object of that class.

50 Q: Can an abstract class be declared final?

Ans: No

51 Q: What is use of a abstract variable?

Ans:Variables can't be declared as abstract.

52 Q: Can a abstract class be defined without any abstract methods?

Ans: Yes it's possible. This is basically to avoid instance creation of the class.

53 Q: Lets say you have a class which implement a interface but class did not implements all methods then is that possible you can create an object of that class?

Ans: No because regular class can not take unimplemented methods so that you have to declared that class as abstract. As we know abstract class can not be instantiated.

54 Q: Can a method inside a Interface be declared as final?

Ans: No not possible.public and abstract are the only applicable modifiers for method declaration in an interface.

55 Q: Can an Interface implement another Interface?

Ans: No not possible.

56 Q: Can an Interface extend another Interface?

Ans: Yes an Interface can inherit another Interface, for that matter an Interface can extend more than one Interface.

57 Q: Why is an Interface be able to extend more than one Interface but a Class can't extend more than one Class?

Ans: Basically Java doesn't allow multiple inheritance, so a Class is restricted to extend only one Class. But an Interface is a pure abstraction model and doesn't have inheritance hierarchy like classes(do remember that the base class of all classes is Object). So an Interface is allowed to extend more than one Interface.

58 Q: Can an Interface be declared as a final?

Ans: No.

59 Q: Can a class be defined inside an Interface?

Ans: Yes it's possible.

60 Q: Can an Interface be defined inside a class?

Ans: Yes it's possible.

61 Q: Which object oriented Concept is achieved by using overloading and overriding?

Ans: Polymorphism.

62 Q: What modifiers are allowed for methods in an Interface?

Ans: Only public and abstract modifiers are allowed for methods in interfaces.

63 Q:What is an abstract method?

Ans: An abstract method is a method which is unimplemented.

64 Q:What is the difference between a static and a non-static inner class?

Ans: A non-static inner class may have object instances that are associated with instances of the class's outer class.

A static inner class does not have any object instances.

65 Q:What is the % operator?

Ans: It is referred to as the remainder operator. It returns the remainder of dividing the first.

66 Q: What restrictions are placed on method overloading?

Ans: Method name must be same, parameter must be different, access modifier and return type may be different, and it happens in the same class.

67 Q: What is casting?

Ans: **Casting** really means is taking an Object of one particular type and "turning it into" another Object type. This process is called **c asting** .There are two types of casting, casting between primitive numeric types and casting between object references. Casting between numeric types is used to convert larger values, such as double values, to smaller values, such as byte values. Casting between object references is used to refer to an object by a compatible class, interface, or array type reference.

68 Q: If a variable is declared as private, where may the variable be accessed?

Ans: A private variable may only be accessed within the class in which it is declared.If you want to give access to another class use getter and setter method. getter mean read and setter mean write

69 Q: What does it mean that a method or field is "static"?

Ans: Static variable means is called class variable.Static variable always work with change value.Static variable u can call with class name means without creating an object. Static methods can be referenced with the name of the class rather than the name of a particular object of the class (though that works too). Static method can be overload but u can not override.

70 Q: Does a class inherit the constructors of its super class?

Ans: A class does not inherit constructors from any of its super classes.

71 Q: What restrictions are placed on the values of each case of a switch statement?

Ans: During compilation, the values of each case of a switch statement must evaluate to a value that can be promoted to an int value.

72 Q: What is the difference between a while statement and a do while statement?

Ans: A while statement checks condition at the beginning of a loop to see whether the loop will be execute or not. A do while statement checks at the end of a

loop to see whether the condition is right or not. The do while statement will always execute the body of a loop at least once.

73 Q: When does the compiler supply a default constructor for a class?

Ans: The compiler supplies a default constructor for a class if no

other constructors are provided.

74 Q: What is the difference between inner class and nested class?

Ans: Nested classes are divided into two categories: static and non-static. Nested classes that are declared static are simply called static nested classes. Non-static

nested classes are called inner classes.

75 Q: Can an abstract class be final?

Ans: An abstract class must not be declared as final.

76 Q: What is the difference between a public and a non-public class?

Ans: A public class may be accessed outside of its package. A non-public class may not be accessed outside of its package.

77 Q: To what value is a variable of the boolean type automatically initialized?

Ans: The default value of the boolean type is false.

78 Q: What are the restrictions placed on method overriding?

Ans: Overridden methods must have the same name, argument list, and return type. The overriding method may not limit the access

of the method it overrides. The overriding method may not throw any exceptions that may not be thrown by the overridden method.

79 Q: What modifiers may be used with a top-level class?

Ans: A top-level or regular class may be public, abstract, or final.

80 Q: What is the difference between an if statement and a switch statement?

Ans: The if statement is used to select among two alternatives. It uses a boolean expression to decide which alternative should be executed. The switch statement is used to

select among multiple alternatives. It uses an int expression to determine which alternative should be executed.

81 Q: What happens to a static variable that is defined within a method of a class ?

Ans: You can not declared static variable in a method.

82 Q: What is the difference between the Boolean & operator and the && operator?

Ans: & is bitwise. && is logical.

& evaluates both sides of the operation. a&b- it will consider the both side and
&& evaluates the left side of the operation, A&&B-

if it's true, it continues and evaluates the right side.

83 Q: What is break and continue keyword in loop?

Ans: A break statement results in the termination of the statement to which it applies (switch, for, do, or while).
A continue statement is used to end the current loop iteration and return control to the loop statement.

84 Q: Can a for statement loop indefinitely?

Ans: Yes, a for statement can loop indefinitely. For example, consider the following: for(;;);

85 Q: To what value is a variable of the String type automatically initialized?

Ans: The default value of an String type is null.

86 Q: How are this() and super() used with constructors?

Ans: this() is used to invoke a constructor of the same class. super() is used to invoke a superclass constructor.

87 Q: What does it mean that a class or member is final?

Ans: A final class cannot be inherited. A final method cannot be overridden in a subclass. A final field cannot be changed after it's initialized, and it must include

an initializer statement where it's declared.

88 Q: What does it mean that a method or class is abstract?

Ans: An abstract class cannot be instantiated. Abstract methods may only be included in abstract classes. However, an abstract class is not required to have any abstract methods,

though most of them do. Each subclass of an abstract class must override the abstract methods of its superclasses or it also should be declared abstract.

89 Q: What is a transient variable?

Ans: Transient variable is a variable that may not be serialized.

90 Q: What is the difference between a constructor and a method?

Ans: A constructor is a member function of a class that is used to create objects of that class. It has the same name as the class itself, has no return type, and is invoked using the new operator. A method is an ordinary member function of a class. It has its own name, a return type (which may be void), and is invoked using the dot operator.

91 Q: What is the purpose of garbage collection in Java, and when is it used?

Ans: The purpose of garbage collection is to identify and discard objects that are no longer needed by a program so that their resources can be reclaimed and reused. A Java object is subject to garbage collection when it becomes unreachable to the program in which it is used.

92 Q: What is an abstract class?

Ans: Abstract class must be extended/subclassed (to be useful). It serves as a template. A class that is abstract may not be instantiated (ie. you may not call its constructor), abstract class may contain static data. Any class with an abstract method is automatically abstract itself, and must be declared as such. A class may be declared abstract even if it has no abstract methods. This prevents it from being instantiated.

94 Q: What is an Iterator?

Ans: Iterator is a interface of collections framework, it is used to get data from table. It has 2 methods Next and hasNext. HasNext() helps to verify if the next element is present and Next() is use to retrieve the element.

95 Q: What is static in java?

Ans: Static means one per class, not one for each object no matter how many instance of a class might exist. This means that you can use them without creating an instance of a

class. Static variable work with change value. Static methods can be overload but can not be override and u can call with class name. Static method can not take non static variable or method.

Static keyword u can not use in top class but u can use in nested class.

96 Q. What is final class?

Ans: Final class can not be inherited by sub class. Only u can instantiate.

97 Q: Do I need to import java.lang package any time? Why ?

Ans: No. It is by default loaded internally by the JVM.

98 Q: What are Checked and UnChecked Exception?

Ans: The exceptions which are checked by compiler for smooth execution of the programme at runtime are called checked exception.
Example: FileNotFoundException,NoSuchElementException etc In the Case of checked exceptions compiler will check whether we are handling exception if programmer not handling then we will get compile time error.

The exceptions which are not checked by compiler are called unchecked exception Example: StringIndexOutOfBoundsException, ArithmaticException, NuulPointException.
In the case of unchecked exception compiler won't check whether programmer handling exception or not.

99 Q: What is the default value of an object reference declared as an instance variable?

Ans: The default value will be null unless we define it explicitly.

100 Q: Primitive data types are passed by reference or pass by value?

Ans: Primitive data types are passed by value.

101 Q: What is serialization?

Ans: Serialization is a mechanism by which you can save the state of an object by converting it to a byte stream.

102 Q: What is the common usage of serialization?

Ans: Whenever an object is to be sent over the network, objects need to be serialized. Moreover if the state of an object is to be saved, objects need to be serilazed.

104 Q: What are runtime exceptions?

Ans: Runtime exceptions are those exceptions that are not warn by compiler but it thrown at runtime. Ex:StackOverflowException ,MemoryoutException ,ArithmaticException

106 Q: What are the different ways to handle exceptions?

There are two ways to handle exceptions,

Ans: 1. By wrapping the desired code in a try block followed by a catch block to catch the exceptions. and

2. List the desired exceptions in the throws clause of the method and let the caller of the method handle those exceptions.

107 Q: Is it necessary that each try block must be followed by a catch block?

Ans:It is not necessary that each try block must be followed by a catch block. It should be followed by either a catch block or a finally block. And whatever exceptions are

likely to be thrown should be declared in the throws clause of the method.

108 Q: If I write return at the end of the try block, will the finally block still execute?

Ans:Yes even if you write return as the last statement in the try block and no exception occurs, the finally block will execute. The

finally block will execute and then the control return.

109 Q: What is synchronization and why is it important?

Ans: Synchronization is a process which helps for mutithreading means project can take more than one thread or request at the same time.If you don't have this concept in a project you can not handle more than one request at same time.

110 Q: What are the steps in the JDBC connection?

Ans:While making a JDBC connection we go through the following steps

```
@Test
public void jdbc() throws ClassNotFoundException {
Connection con = null;
Statement st = null;
ResultSet rs = null;
String url = "jdbc:mysql://localhost:3306/testdb";
String user = "root";
String password = "";
try {
Class.forName("com.mysql.jdbc.Driver"); // to initialize the driver
con = DriverManager.getConnection(url, user, password); // create
connection in to data base
st = con.createStatement(); // to create statement
rs = st.executeQuery("SELECT VERSION()"); // to get result set
if (rs.next()) {
System.out.println(rs.getString(1)); // to print the 1st value from table
}
} catch (SQLException ex) {
Logger lgr = Logger.getLogger(JDBCConnection.class.getName());
lgr.log(Level.SEVERE, ex.getMessage(), ex);
} finally {
try {
if (rs != null) {
rs.close();
}
if (st != null) {
st.close();
}
if (con != null) {
con.close();
}
} catch (SQLException ex) {
System.out.println("......");
```

}
}
}

111 Q: How does a try statement determine which catch clause should be used to handle an exception?

Ans:When an exception is thrown within the body of a try statement, the catch clauses of the try statement are examined in the order in which they appear. The first catch clause that is capable of handling the exception is executed. The remaining catch clauses are ignored.

112 Q:Is String a primitive data type in Java?

Ans:No. String is not a primitive data type in Java, even though it is one of the most extensively used object. Strings in Java are instances of String class defined in java.lang package.

113 Q: What happens if you don't initialize an instance variable of any of the primitive types in Java?

Ans:Java by default initializes it to the default value for that primitive type. Thus an int will be initialized to 0(zero), a boolean will be initialized to false.

114 Q: What is HashMap and Map?

Ans:Map is an Interface and Hashmap is the class that implements Map.

116 Q: Difference between Vector and ArrayList?

Ans:Vector is synchronized whereas arraylist is not.

117 Q:How to handle exception in java?

Ans:
How to handle Exception?

By using Try Catch block we can handle exception. Basic syntacs of Try Catch block and combination of Try Catch block are explained below –

First combination:

```
Try
{
        Any statement;
}
catch(AnyException Class     Any variable name)
{
        syso(“print whatever you want”);
}
```

Second Combination:

```
Try
{
```

```
        Any statement;
}
catch (AnyException Class     Any variable
name)
{
        syso(“print whatever you want”);
}
catch (AnyException Class     Any variable
name)
{
        syso(“print whatever you want”);
}
.
.
.
catch (Exception(-parent calss of exception)
 Any variable name)
{
        syso(“print whatever you want”);
}
```

Third combination:

```
Try
{
        Any statement;
}
catch (AnyException Class     Any variable
name)
{
        syso(“print whatever you want”);
}
catch (AnyException Class     Any variable
name)
{
        syso(“print whatever you want”);
```

```
}
.
.
.
catch (Exception(-parent calss of exception)
 Any variable name)
{
        syso(“print whatever you want”);
}

finally
{
        statements;
}
```

Fourth combination

```
Try
{
        Any statement;
}

finally
{
        statements;
}
```

** finally will always execute no matter what.

118:What is the difference between error and exception?
Ans:
Error means is major problem which developer can not handle such as system error.

Exception means the problem which developer can handle by developer can handle using try catch block or throws keyword.

119 Q:What is difference between method overloading and overriding?

Ans:

overloading: Overloading happen in a same class. Same method name with different parameter (size/type). Access modifier and return type may be changed.Compile time polymorphism.

overriding: Overriding happens between parent class and child class. The body will be changed but the access modifier, method name, return type and parameter cannot be changed. Run time polymorphism.

120 Q:what is the difference between final finally and finalize?

Ans:
As I said earlier final keyword can be used along with variable, method and Class in Java. If you make a variable final, you can not change it's value, it will act like a constant. final variables are initialized at the time of creation except in case of blank final variable which is initialized in Constructor. If you make a method final in Java, you can not override it in sub class . If you make a class final means it can not be sub classed. Making a class final automatically makes all its method final and this is sometime required due to security reason, final keyword also help to write Immutable classes which are critical for designing thread-safe multi-threading system and reducing amount of synchronization. Now let's see What is finally in Java? As I said finally is used for exception handling along with try and catch. As per Java programming language's rule, for exception handling you at least need either catch or finally block. finally block has special advantage over catch that its guaranteed to be executed despite whether Exception is thrown or not, this makes it, an ideal place to close system resource e.g.InputStream or OutputStream, which is required to release scarce file descriptor. Closing streams, network connection, database connection in finally block is good coding practice in Java. By the way from Java 7 you can use try with resource block to close resource automatically. Since finally is guaranteed to be executed on most cases, finally block always execute, except in case of JVM dies i.e. calling System.exit() .
Now let's see What is finalize() method, finalize() is called by Garbage collection thread just before collecting eligible Objects. This is the last chance for object to perform any cleanup but since its not guaranteed that whether finalize() will be called, its bad practice to keep resource till finalize call. Though you can build a safety net on finalize by double checking scarce resources. See 10 points on finalize method to know more about specific points of finalize(). So, final, finally and finalize all are different keyword, they are used for different purpose. only similarity between them is that they are a Java programming language keyword, other than that final, finalize and finally are completely different than each other.

121 Q:What is difference between array and array-list?

Ans: Arrays can contain primitive or Objects

whereas ArrayList can contain only Objects.

Arrays are fixed size whereas Array List size is dynamic or resizable

Arrays doesn't provide a lot of features like Array List, such as addAll, removeAll, iterator etc.

Array take same datatype as a value but ArrayList take Different type of value.

Array work with primitive datatype but ArrayList works only with object type.

122:What is interface?why we need interface?

Ans: Interface is bit like a class but not class; except we can only declare methods and variables in Interface, we cannot actually implement the method in Interface.In other words, Interface is basically a collection of abstract/unimplemented method.

Ans-When test scenario is available but acceptance criteria and requirement specifications are not finalized.

Interface features:

Class implements the interface
One class can implement more than one

interface at a time.
A class can extend one class with implement more than one interface

one implement at a time.
Interface extends more than one interface.
Interface cannot implement another

interface.
Interface centralizes all classes.

123 Q:When a class must be abstract class? When we need abstract class?

Ans: An abstract class is a class with collections of implemented and unimplemented method, which cannot be instantiated (instantiated means we can not create object for abstract class)

Even there is only one unimplemented method in a class then that class is known as Abstract class.

When we have to keep a method as unimplemented in a class-

we have to write that method as abstract method, then the whole class will be Abstract class.

124 Q:How to execute constructor of Abstract class?

Ans:We need to extend the abstract class, where we have to create a constructor-through this constructor by the help of keyword 'super' we can reach parent class. Then we have to create object in another class then the constructor of extended class will be executed; this is how the constructor of Abstract class will be executed.

125 Q:What is difference between interface and abstract?

Ans:

Abstract class	Interface
1) Abstract class can **have abstract and non-abstract**methods.	Interface can have **only abstract** methods.
2) Abstract class **doesn't support multiple inheritance**.	Interface **supports multiple inheritance**.
3) Abstract class **can have final, non-final, static and non-static variables**.	Interface has **only static and final variables**.
4) Abstract class **can have static methods, main method and constructor**.	Interface **can't have static methods, main method or constructor**.
5) Abstract class **can provide the implementation of interface**.	Interface **can't provide the implementation of abstract class**.
6) The **abstract keyword** is used to declare abstract class.	The **interface keyword** is used to declare interface.

7) **Example:**
public abstract class Shape{
public abstract void draw();
}
	Example:
	public interface Drawable{
	void draw();
	}

8) If you add new method to abstract class, you can provide default implementation of it. So you don't need to change your current code	If you add new method to interface, you have to change the classes which are implementing that interface
9) Abstract classes are almost same as java classes except you can not instantiate it	Different from normal java class
10) It is faster than interface	Interface is somewhat slower as it takes some time to find implemented method in class

126 Q:What is polymorphism?

Ans: Polymorphism is a concept which allows u to give the ability an object in different form.This relation is called is a relationship with different form means in order to perform this concept you have to inherite the parent class first then u can use only. It include method overload and override concept as well.

There are two types of polymorphism in java:

compile time polymorphism and runtime polymorphism. We can perform polymorphism in java by method overloading and method overriding.

Ex:class Animal class dog extends Animal class cow extends Animal class smoke{ Animal a=new Dog(): Animal a1=new Cow();}

{

} {

}

127:What is encapsulation?

Ans:Encapsulation is a mechanism that binds together code and the data it manipulates and keeps both safe from outside the class.Its called data hiding.

you can give access if you want using getter and setter method.

128 Q: What is inheritance?is that possible java can inherit more than one class?

Ans:In inheritance is the process by which one object acquires the properties of another object Inheritance is a mechanism wherein a new class is derived from existing class (oop concept).a class can not inherite more than one class.

129 Q:What is difference between list and set?

Ans:difference between them is that List allows duplicates and maintain insertion order while Set doesn't allow duplicates and doesn't maintain any order.

130 Q:What is difference between Hashmap and hash table?

There are many differences between HashMap and Hashtable classes that are given below.

HashMap	Hashtable
1) HashMap is **non synchronized**. It is not-thread safe and can't be shared between many threads without proper synchronization code.	Hashtable is **synchronized**. It is thread-safe and can be shared with many threads.
2) HashMap **allows one null key and multiple null values**.	Hashtable **doesn't allow any null key or value**.
3) HashMap is a **new class introduced in JDK 1.2**.	Hashtable is a **legacy class**.
4) HashMap is **fast**.	Hashtable is **slow**.
5) We can make the HashMap as synchronized by calling this code Map m = Collections.synchronizedMap(hashMap);	Hashtable is internally synchronized and can't be unsynchronized.
6) HashMap is **traversed by Iterator**.	Hashtable is **traversed by Enumerator and Iterator**.
7) Iterator in HashMap is **fail-fast**.	Enumerator in Hashtable is **not fail-fast**.
8) HashMap inherits **AbstractMap** class.	Hashtable inherits **Dictionary** class.

131 Q:What is difference between array list and linkedlist?

Ans: Difference between ArrayList and LinkedList

ArrayList and LinkedList both implements List interface and maintains insertion order. Both are non synchronized classes.

But there are many differences between ArrayList and LinkedList classes that are given below.

ArrayList	LinkedList
1) ArrayList internally uses **dynamic array** to store the elements.	LinkedList internally uses **doubly linked list** to store the elements.
2) Adding and retrival the element ArrayList is best choice.	To remove element Linkedlist is best choice
3) 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.
4) ArrayList is **better for storing and accessing** data.	LinkedList is **better for manipulating** data.

132 Q: What is difference between Enumeration and Iterator?

Ans:Enumeration is twice as fast as Iterator and uses very less memory. Enumeration is very basic and fits to basic needs. But Iterator is much safer as compared to Enumeration because it always denies other threads to modify the collection object which is being iterated by it.Enumeration works in only List interface from collection framework and it can not remove any element.But in Iterator work in whole collection framework and it can remove the element if needed.

133 Q: How to generate random number using java?

Ans:int random = (int)(Math.random() * 5000 + 1);

134.Lets say you have a string(String s="how are you") how can remove all space between word?
Ans:String s="How are u";

s.replace(" ","");

first parameter takes old character and second parameter takes new character.

135.What is constructor?When u need constructor?can you overload or override a constructor?

Ans:Constructor is a block of code which execute at the time of object creation.To construct something means lets say you want to change a value of a variable then you can use constructor. Constructor name always same as class name.you can have constructor as many as you want in a class.But you have to change parameter type or parameter size. To change the parameter size or type you can overload a constructor.You can not override a constructor in java.

136.What is regular expression in java?

Ans:A regular expression is a special sequence of characters that helps you match or find other strings or sets of strings, using a specialized syntax held in a pattern. They can be used to search, edit, or manipulate text and data.

Here is some expression:

\A Matches beginning of string.
\Z Matches end of string. If a newline exists, it matches just before newline.
\z Matches end of string.
\G Matches point where last match finished.
\n Back-reference to capture group number

"n"
\b Matches word boundaries when outside brackets. Matches backspace (0x08) when inside brackets.
\B Matches nonword boundaries.
\n, \t, etc. Matches newlines, carriage returns, tabs, etc.
\Q Escape (quote) all characters up to \E
\E Ends quoting begun with \Q

137.What is java.io?

Ans:Java.io is a package in java where you can get FileInputStream and FileOutputStream etc.

138 Q:If you create a object it showing an error what could be the reason?

Ans:Mainly it could be Constructor parameter did not match.

139.What is Java Collections Framework? List out some benefits of Collections framework?

Ans: Collection framework basically work for data structure.There are some limitation in regular data type and array concept in java such as array is fixed size and it takes only same data type.To overcome this limitation collection framework take place where we can store our data in different format like ArrayList class can take duplicate value ,HashSet class can take only unique value and hashmap class can take only key-value structure.

:Collection framework have some interface like List,Set,Map,Iterator etc, Collections interfaces implements different classes like arrayList ,vector, LinkedHashSet ,HashMap, Hashtable etc.

it has algorithm concept as well. Java Collections have come through a long way with usage of Generics and Concurrent Collection classes for thread-safe operations. It also includes blocking interfaces and their implementations in java concurrent package. Some of the benefits of collections framework are Reduced development effort by using core collection classes rather than implementing our own collection classes.Code quality is enhanced with the use of well tested collections framework classes.Reduced effort for code maintenance by using collection classes shipped with JDK.Reusability and Interoperability

140 Q: What is Big-O notation? Give some examples?

Ans:The Big-O notation describes the performance of an algorithm in terms of number of elements in a data structure. Since Collection classes are actually data structures, we usually tend to use Big-O notation to chose the collection implementation to use based on time, memory and performance.Example 1: ArrayList get(index i) is a constant-time operation and doesn't depend on the number of elements in the list.So it's performance in Big-O notation is O(1).

Example 2: A linear search on array or list performance is O(n) because we need to search through entire list of elements to find the element.

141 Q: What is Exception handling?

Ans: The exception handling in java is one of the powerful mechanisms to handle the run time errors so that the normal flow of the application can be maintained.

When there will be error the exception handling will print message and move on to the next phase to maintain the normal flow of that application.

There are two type of exception :

1.Checked or compile time exception

2.Unchecked or Run Time exception.

Updated Interview Questions

142 Q: If you declare a variable locally without assigning a value then what will be the default value ?

Ans:

143 Q: What is the difference between notify and notifyAll ?

Ans:

144 Q: What is the difference between equals and hascode..... Fix

Ans:

145 Q: How many class can you declare in the same source file ?

Ans:

146 Q: Difference between inner and nested class ?

Ans:

147 Q: Which modifier you can use in top class level ?

Ans:

148 Q: Difference between Collection and Collections ?

Ans:

149 Q: Difference between Vector and Arraylist ?

Ans:

150 Q: How to get unique value from a list of data ?

Ans:

151 Q: Difference between encapsulation and private variable ?

Ans:

152 Q: What is Abstraction in java ?

Ans:

153 Q: How can you Abstract class constructor ?

Ans:

154 Q: What is synchronization and multithreading ?

Ans:

155 Q: What is serialization ?

Ans:

156 Q: When does finalize method gets called ?

Ans:

157 Q: What is exception ? difference between checked and unchecked exception ?

Ans:

158 Q: What is constant variable in java and some regular expression in java ?

Ans:

159 Q: What is iterator and enum? Difference between enumeration and iterator ?

Ans:

160 Q: How to sort a String ? How to print print a String in reverse ?

Ans:

161 Q: Can you tell me some of the methods name in Object class ?

Ans:

162 Q: Do you know what are the current version of all the tools you are using ?

Ans:

163 Q: What is the difference between equals and == sign ?

Ans:

164 Q: What is System.out.println ?

Ans:

165 Q: Can you override a constructor ?

Ans:

166 Q: Where do you use overload and overring in in WebDriver ?

Ans:

167 Q: Why do we need inheritence in Java ?

Ans:

168 Q: How many way you can handle exception ?

Ans:

170 Q: How to divide, reverse, sort, remove character and cont a String ?

Ans:

171 Q: What is Transient variable ?

Ans:

172 Q: Difference between Set and list ? Compare and CompareTo ? HashMap and HashTable ?

Ans:

173 Q: Difference between Array and ArrayList ?

Ans:

174 Q: How to reverse a String using Framework ?

Ans:

175 Q:

Ans:

176 Q: What is the difference between throw and throws in Java ?

Ans: **throw** keyword is used to throw our own exception in the program. **throw new** Exception_class **throws** is to declare an exception within a method. e.g suppose some programmer

defines a method and he knows that it may causes exception, but he/she don't want to handle that exception, then this method defined with the **throws** keyword. But when we call this function, it should be call with **try** and **catch** block to maintain the normal flow of the program

177 Q: what operator we can use to replace if else condition in java?

Ans: