**Java Interview Questions (Q.31 to Q.60):**

**31. What is the difference between == operator and .equals() method?**

**Ans:** == operator is used for reference or address comparison and on the other hand .equals() method is used for content or value comparison. For Example:

String s1 = new String(“uddin”);

String s1 = new String(“uddin”);

System.out.println(s1==s2);

Output will be false. // because memory location is different.

System.out.println(s1==s2);

Output will be true. // because contents are same.

**32. Which object-oriented concept is achieved by using overloading and overriding?**

**Ans:** In Java Polymorphism(many form) concept is achieved by using overloading and overriding.

**33. What is the difference between a constructor and a method?**

**Ans:** Following are the important difference between Constructor and Method:

|  |  |  |
| --- | --- | --- |
| **Sr. No.** | **Constructor** | **Method** |
| 1 | Constructor must have same name as that of the class. | Method name can not be same as class name. |
| 2 | Constructor can not have any return type. | Method may or may not have a return type. |
| 3 | Constructor is used to create and initialize an Object | Method is used to execute certain statements. |
| 4 | A constructor is invoked implicitly by the System. | A method is to be invoked during program code. |
| 5 | A constructor initializes an object which is not existent. | A method can be invoked only on existing object. |
| 6 | A constructor is invoked when new keyword is used to create an object. | A method is invoked when it is called. |
| 7 | A constructor cannot be inherited by a subclass. | A method is inherited by a subclass. |

**34. Does a class inherit the constructor of its superclass?**

**Ans:** A class does not inherit constructor from any of its superclass.

**35. When does the compiler supply a default constructor for a class?**

**Ans:** If we don’t create a constructor, the compiler by default provide a constructor.

**36. How are this() and super() used with constructor?**

**Ans:** this() as well as super() both are used to make constructor calls. super() is used to call Base/Parent’s class’s constructor while this() is used to call current class’s constructor.

**37. what is a class variable?**

**Ans:** Class variables also known as static variables are declared with the static keyword in a class, but outside a method, constructor or a block. There would only be one copy of each class variable per class, regardless of how many objects are created from it.

**38. What is the default value for different data types?**

**Ans:** Following are the default value for different data types:

|  |  |
| --- | --- |
| **Data Type** | **Default Value** |
| byte | 0 |
| short | 0 |
| int | 0 |
| long | 0L |
| double | 0.0d |
| float | 0.0f |
| char | u0000 |
| boolean | false |
| String | null |

**39. What are the difference between instance and class variable?**

**Ans:** The difference between instance and class variable are follows:

Class Variable: Class variables also known as static variables are declared with the static keyword in a class, but outside a method, constructor or a block. There would only be one copy of each class variable per class, regardless of how many objects are created from it.

Instance Variable: Instance variables are declared in a class, but outside a method. When space is allocated for an object in the heap area, a slot for each instance variable value is created. Instance variable hold values that must be referenced by more than one method, constructor or block.

**40. What is a regular expression in Java?**

**Ans:** **Regular Expression:** If we want to Represent a Group of Strings according to a Particular Pattern, then we should go for Regular Expression.

Pattern p = Pattern.compile();

Matcher m = p.matcher();

**Pattern object :**

Compiled version of Regex.

Equivalent java object of Regular Expression.

Pattern p = Pattern.compile(“ab”);

**Matcher object:**

We can use Matcher object to match the given pattern in the target String.

We can create Matcher object by using matcher method() of Pattern Class.

Matcher m = p.matcher(“ababbaba”);

41. What is the difference between the inner class and nested class?

Ans: An inner class is nested but non-static and is the most important of all nested classes. Nested classes that are declared static are called static nested class.

42. What are the different ways to handle exceptions?

Ans: There are two ways to handle exceptions: By wrapping the desired code in a try block followed by a catch block to catch the exceptions. List the desired exceptions in the throws clause of the method and let the caller of the method handle those exceptions and combination of try catch block.

**43. How to handle exceptions?**

**Ans:** By using the Try-Catch block we can handle the exception.  
The basic syntax of the Try-Catch block and the combination of Try-Catch block is explained below:  
   First combination:  
   Try{  
   //Any statement;}  
  catch(AnyException Class     Any variable name){  
   System.out.println(“print whatever you want”);}   
  Second Combination:  
  Try{  
  //Any statement;}  
  catch (AnyException Class     variable name){  
  System.out.println(“print whatever you want”);  
}  
  catch (AnyException Class   variable name){  
  System.out.println(“print whatever you want”);  
  catch (Exception(-parent calss of exception variable name){   
  System.out.println(“print whatever you want”);}   
  Third combination:  
  Try{  
 //Any statement;}  
  catch (AnyException Class     variable name){  
  System.out.println(“print whatever you want”);  
  }catch (AnyException Class     variable name){  
  System.out.println(“print whatever you want”)}  
  catch (Exception(-parent class of exception variable name){  
  System.out.println(“print whatever you want”);  
}  
 finally{  
   //statements;}  
 Fourth combination:  
 Try{Any statement}  
 finaly{  
 //statements;}  
 finally block will always execute no matter what.

**44.** **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 final block. And whatever exceptions are likely to be thrown should be declared in the throws clause of the method.

**45. How does a try statement determine which catch clause should be used to handle an exception?**  
**Answer:** 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.

**46.** **What if System. Exit() in try block?**        
System. Exit Exits the program immediately, bypassing any other code execution (such as finally blocks).  
  If you want to exit the program after finally blocks run,  
   throw an exception instead. If JVM exits while the try or catch code is being executed.  
  e.g. System.exit(),  
   then the finally block may not execute.

**47. What is the common usage of serialization?**

**Answer:**Whenever an object needs to be send over the network or stored in files, objects need to be serialized. Because our network infrastructure and hard disk are hardware components that understand only bites and bytes but not java objects.

**48. What is the difference between final finally and finalize?**  
**Ans:  final**: final is a reserved keyword in java. We cannot use it as an identifier as it is reserved. We can use this keyword with variables, method, and also with classes. The final keyword in java has different meanings depending upon it is applied to variable, class, or method.

**finally**: is a keyword that is used with try and catch block and guarantees that a section of code will be executed, even if an exception is thrown. The finally block will be executed after the try and catch blocks, but before control transfers back to its origin.   
**finalize method:**It is a method that the Java Garbage Collector always calls just before the deletion/ destroying the object, which is eligible for garbage collection, so as to perform clean-up activity. Clean-up activity means closing the resources associated with that object like Database connection, network connection or we can say resources de-allocation. Remember it is not a reserved keyword. Once the finalize method completed immediately garbage collector destroys that object. finalize method is present in Object class and its syntax.   
**49. how to find maximum and minimum value in an array in java?**  
  public class MinAndMax {  
  public int max(int [] array) {  
      int max = 0;  
      for(int i=0; i<array.length; i++ ) {  
         if(array[i]>max) {  
            max = array[i];  
         }  }  
      return max;  
   }  
   public int min(int [] array) {  
      int min = array[0];  
      for(int i=0; i<array.length; i++ ) {  
         if(array[i]<min) {  
            min = array[i];  
         }   }  
      return min;  
   }  
   public static void main(String args[]) {  
      int[] myArray = {23, 92, 56, 39, 93};  
      MinAndMax m = new MinAndMax();  
      System.out.println("Maximum value in the array is::"+m.max(myArray));  
      System.out.println("Minimum value in the array is::"+m.min(myArray));  
   }  
}  
**50. Find the Second largest element in an array.**  
**Ans:**  
import java.util.\*;  
public class SecondLargestNew  
{  
public static void main(String[] args)  
{  
int[] array = {0,12,74,26,82,3,89,8,94,3};          
  
int highest = Integer.MIN\_VALUE;  
int secondHighest = Integer.MIN\_VALUE;  
  
for (int i = 0; i < array.length; i++)        
{  
if (array[i] > highest)            
{  
// ...shift the current highest number to second highest  
            secondHighest = highest;  
// ...and set the new highest.  
            highest = array[i];  
} else if (array[i] > secondHighest)  
{  
// Just replace the second highest  
            secondHighest = array[i];  
}  
}  
System.out.println("second largest is "+secondHighest );  
System.out.println("largest is "+ highest);  
}  
}

**51. How to generate random numbers using java?**  
**Ans:**  
   By using Random class  
   Random random=new Random();  
   int a = random.nextInt(10)+1; //from 1 to 10 // from 10 to 100 --(90)+10  
 System.out.println(a);  
    //or Using Math class  
  int b= (int) (Math.random()\*10); //from 0 to 9 // from 1 to 10 --\*10+1  
 System.out.println(b);  
**52.** **What is Abstract Class in java?**  
**Ans:**Abstract classes enforce abstraction, the creation of an object is not possible with an abstract class, but it can be inherited. The abstract class has an abstract and non-abstract method. Non-abstract class can’t have an abstract method  
Rules for Abstract Method:  
 a) An abstract method has no building block.  
 b) It must end with a semicolon  
 c) It must be in the abstract class  
 d) It must be overridden  
 e) It can never be final and static  
**53. If you create an object it is showing an error what could be the reason?**  
**Ans:** Mainly it could be the constructor parameter that did not match.  
**54.** **What are wrapper classes?**  
**Ans:** Java provides specialized classes corresponding to each of the primitive data types. These are called wrapper classes.  
Examples: Integer, Character, Double, Boolean, etc.  
**55.** **What is a class variable?**       
**Ans:** When an instance variable declared as static is called class variable.

**56. 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.

**57. What is a transient variable?**  
**Ans:** Transient is a variables modifier used in serialization. At the time of serialization, if we don’t want to save value of a particular variable in a file, then we use transient keyword. When JVM comes across transient keyword, it ignores original value of the variable and save default value of that variable data type..

**58. Should a main() method be compulsorily declared in all java classes?**  
**Ans:** The main() method is not required for all classes but, at least once in any class of a project to execute the programs of that project.  
**59. What is the return type of main() method?**          
**Ans:** The main() method does not return anything except execute the program. So return type of main() method is declared as void.  
**60. What is java.io?**  
**Ans:** Java.io is a package in java where we can get Java prebuild classes like, FileInputStream and FileOutputStream etc.  
**61. Why is the main() method declared as static?**  
**Ans:** In any Java program, the main() method is the starting point from where compiler starts program execution. That is why Java main() method is always static, so that compiler can call it without the creation of an object or before the creation of an object of the class.