

## Java Basics

1. What is the difference between JDK and JRE?
2. What is Java Virtual Machine (JVM)?
3. What are the different types of memory areas allocated by JVM?
4. What is JIT compiler?
5. How Java platform is different from other platforms?
6. Why people say that Java is 'write once and run anywhere' language?
7. How does ClassLoader work in Java?
8. Do you think 'main' used for main method is a keyword in Java?
9. Can we write main method as public void static instead of public static void?
10. In Java, if we do not specify any value for local variables, then what will be the default value of the local variables?
11. Let say, we run a java class without passing any arguments. What will be the value of String array of arguments in Main method?
12. What is the difference between byte and char data types in Java?

## OOPS

13. What are the main principles of Object Oriented Programming?
14. What is the difference between Object Oriented Programming language and Object Based Programming language?
15. In Java what is the default value of an object reference defined as an instance variable in an Object?
16. Why do we need constructor in Java?
17. Why do we need default constructor in Java classes?
18. What is the value returned by Constructor in Java?
19. Can we inherit a Constructor?
20. Why constructors cannot be final, static, or abstract in Java?

## Inheritance

21. What is the purpose of 'this' keyword in java?
22. Explain the concept of Inheritance?
23. Which class in Java is superclass of every other class?
24. Why Java does not support multiple inheritance?
25. In OOPS, what is meant by composition?

26. How aggregation and composition are different concepts?
27. Why there are no pointers in Java?
28. If there are no pointers in Java, then why do we get NullPointerException?
29. What is the purpose of 'super' keyword in java?
30. Is it possible to use this() and super() both in same constructor?
31. What is the meaning of object cloning in Java?

### Static

32. In Java, why do we use static variable?
33. Why it is not a good practice to create static variables in Java?
34. What is the purpose of static method in Java?
35. Why do we mark main method as static in Java?
36. In what scenario do we use a static block?
37. Is it possible to execute a program without defining a main() method?
38. What happens when static modifier is not mentioned in the signature of main method?
39. What is the difference between static method and instance method in Java?

### Method Overloading and Overriding

40. What is the other name of Method Overloading?
41. How will you implement method overloading in Java?
42. What kinds of argument variations are allowed in Method Overloading?
43. Why it is not possible to do method overloading by changing return type of method in java?
44. Is it allowed to overload main() method in Java?
45. How do we implement method overriding in Java?
46. Are we allowed to override a static method in Java?
47. Why Java does not allow overriding a static method?
48. Is it allowed to override an overloaded method?
49. What is the difference between method overloading and method overriding in Java?
50. Does Java allow virtual functions?
51. What is meant by covariant return type in Java?

## **Polymorphism**

52. What is Runtime Polymorphism?
53. Is it possible to achieve Runtime Polymorphism by data members in Java?
54. Explain the difference between static and dynamic binding?

## **Abstraction**

55. What is Abstraction in Object Oriented programming?
56. How is Abstraction different from Encapsulation?
57. What is an abstract class in Java?
58. Is it allowed to mark a method abstract method without marking the class abstract?
59. Is it allowed to mark a method abstract as well as final?
60. Can we instantiate an abstract class in Java?
61. What is an interface in Java?
62. Is it allowed to mark an interface method as static?
63. Why an Interface cannot be marked as final in Java?
64. What is a marker interface?
65. What can we use instead of Marker interface?
66. How Annotations are better than Marker Interfaces?
67. What is the difference between abstract class and interface in Java?
68. Does Java allow us to use private and protected modifiers for variables in interfaces?
69. How can we cast to an object reference to an interface reference?

## **Final**

70. How can you change the value of a final variable in Java?
71. Can a class be marked final in Java?
72. How can we create a final method in Java?
73. How can we prohibit inheritance in Java?
74. Why Integer class is final in Java?
75. What is a blank final variable in Java?
76. How can we initialize a blank final variable?
77. Is it allowed to declare main method as final?

## Package

78. What is the purpose of package in Java?
79. What is java.lang package?
- String
121. What is the meaning of Immutable in the context of String class in Java?
122. Why a String object is considered immutable in java?
123. How many objects does following code create?
124. How many ways are there in Java to create a String object?
125. How many objects does following code create?
126. What is String interning?
127. Why Java uses String literal concept?
128. What is the basic difference between a String and StringBuffer object?
129. How will you create an immutable class in Java?
130. What is the use of `toString()` method in java ?
131. Arrange the three classes String, StringBuffer and StringBuilder in the order of efficiency for String processing operations?

## Exception Handling

132. What is Exception Handling in Java?
133. In Java, what are the differences between a Checked and Unchecked?
134. What is the base class for Error and Exception classes in Java?
135. What is a finally block in Java?
136. What is the use of finally block in Java?
137. Can we create a finally block without creating a catch block?
138. Do we have to always put a catch block after a try block?
139. In what scenarios, a finally block will not be executed?
140. Can we re-throw an Exception in Java?
141. What is the difference between throw and throws in Java?
142. What is the concept of Exception Propagation?
143. When we override a method in a Child class, can we throw an additional Exception that is not thrown by the Parent class method?

## Mixed Questions

- 169.What are Wrapper classes in Java?
- 170.What is the purpose of native method in Java?
171. What is System class?
- 172.What is System, out and println in System.out.println method call?
- 173.What is the other name of Shallow Copy in Java?
- 174.What is the difference between Shallow Copy and Deep Copy in Java?
- 175.What is a Singleton class?
- 176.What is the difference between Singleton class and Static class?
- 486.Is empty '.java' file name a valid source file name in Java?
- 487.How do you implement Servlet Chaining in Java?
- 488.Can you instantiate this class?
- 489.Why Java does not support operator overloading?
- 490.Why String class is Immutable or Final in Java?
- 491.What is the difference between sendRedirect and forward methods?
- 492.How do you fix your Serializable class, if it contains a member that is not serializable?
- 493.What is the use of run time polymorphism in Java?
- 494.What are the rules of method overloading and method overriding in Java?
- 495.What is the difference between a class and an object in Java?
- 496.Can we create an abstract class that extends another abstract class?
- 497.Why do you use Upcasting or Downcasting in Java ?
- 498.What is the reason to organize classes and interfaces in a package in Java?
- 499.What is information hiding in Java?
- 500.Why does Java provide default constructor?
- 501.What is the difference between super and this keywords in Java?

## **Java 8**

- 358.What are the new features released in Java 8?
- 359.What are the main benefits of new features introduced in Java 8?
- 360.What is a Lambda expression in Java 8?
- 361.What are the three main parts of a Lambda expression in Java?
- 362.What is the data type of a Lambda expression?
- 363.What is the meaning of following lambda expression?
- 364.Why did Oracle release a new version of Java like Java 8?
- 365.What are the advantages of a lambda expression?
- 366.What is a Functional interface in Java 8?