**JAVA INTERVIEW QUESTIONS (100 Questions)**

**BASICS**

1. JVM, JRE, JDK
2. Why Java?
3. Advantage of Java

**OPERATORS**

1. What is the difference between the == operator and the .equals() method in Java?
2. Explain the ternary operator (? :) in Java and provide an example of its usage.
3. What is the purpose of the bitwise AND operator (&) in Java? How does it differ from the logical AND operator (&&)?
4. Explain the concept of short-circuiting in the context of logical operators (&& and ||).
5. What is the “instanceOf” operator used for in Java?
6. How does the ++ operator work in both pre-increment and post-increment forms? Provide examples.
7. Explain the use of the >>> operator in Java and how it differs from the >> operator.
8. What is the purpose of the += operator in Java? Provide an example.
9. Explain the concept of the modulo operator (%) and provide a scenario where it might be useful.
10. What is the difference between the & and | operators and the && and || operators in terms of boolean expressions?

**CONTROL STATEMENTS**

1. Explain the difference between if and switch statements in Java. When would you prefer to use one over the other?
2. What is the purpose of the break statement in Java? Provide an example where it is used.
3. Explain the concept of nested loops and provide an example in Java. What are the potential challenges associated with nested loops?
4. How does the continue statement differ from the break statement? Provide an example of using continue in a loop.
5. What is the significance of the default case in a switch statement?
6. Explain the use of the for-each loop in Java. When is it preferable to a traditional for loop?
7. How does the do-while loop differ from the while loop in Java? Provide an example of when you might use a do-while loop.
8. What is the role of the return statement in a method? How is it different from the System.exit() method?
9. Explain the concept of the try, catch, and finally blocks in exception handling. Provide an example of using these blocks.
10. How would you implement a custom exception in Java? Provide an example scenario where a custom exception might be useful.

**ARRAY**

1. What is the difference between an array and an ArrayList in Java? When would you choose one over the other?
2. Explain the concept of the enhanced for loop (for-each) in Java. How is it used with arrays?
3. How do you find the length of an array in Java? Can the length of an array be changed after initialization?
4. Discuss the difference between a one-dimensional array and a two-dimensional array in Java.
5. What is the significance of the Arrays class in Java, and what are some commonly used methods from this class?
6. Explain what an "ArrayIndexOutOfBoundsException" is in Java.
7. Explain the purpose of the length property in arrays. How does it differ from the length() method in strings?

**STRING**

1. What is the difference between String and StringBuilder in Java? When would you use one over the other?
2. Explain the significance of the equals() method and the == operator when comparing strings in Java.
3. How do you concatenate strings in Java? Provide examples using different methods, and discuss the efficiency considerations.
4. What is the purpose of the charAt() method in the String class? Provide an example of its usage.
5. Explain the concept of immutability in the String class. How does it impact string manipulation, and why is it important?
6. What is the StringBuilder class, and how does it differ from StringBuffer? Provide an example of using StringBuilder for string manipulation.
7. Explain the purpose of the substring() method in the String class. Provide an example demonstrating its usage.
8. What is the split() method in Java? Provide an example of splitting a string using a specific delimiter.
9. Discuss the difference between toUpperCase() and toLowerCase() methods in the String class. Provide examples illustrating their usage.
10. How does the intern() method work in Java's String class? When might you use it, and what are its implications?

**OOPS**

1. What is a Class?
2. What is an Object?
3. What is method?
4. What is abstraction?
5. Difference between Abstract class and Interface?
6. What is Abstract Class, Abstract method?
7. What is Concrete Class?
8. What is Encapsulation?
9. Explain the role of access modifiers?
10. What is getter and setter? Why are they used?
11. What is Final keyword?
12. What is polymorphism in Java? Provide a simple explanation.
13. Explain the difference between compile-time (static) polymorphism and runtime (dynamic) polymorphism.
14. What is method overloading? Provide an example in Java.
15. What is method overriding? Provide an example in Java.
16. How does polymorphism contribute to code reusability and maintainability?
17. What is Inheritance?
18. What is Superclass and Subclass?
19. What is super keyword? and how it is used in context of inheritance?
20. How does Java support multiple inheritance, and what is the role of interfaces in achieving it?
21. What is a constructor in Java, and why is it used?
22. Explain the difference between a default constructor and a parameterized constructor.
23. How is constructor overloading achieved in Java? Provide an example.
24. What is the purpose of the “this” keyword in a constructor, and how is it used?
25. Discuss the concept of a copy constructor in Java. When might you use one, and how would you implement it?

**Garbage Collector**

1. Why Destructor is not supported in java?
2. What is Garbage Collector in java?
3. How “Finalize()” method works?
4. Final vs Finalize vs Finally?
5. Explain the concept of garbage collection tuning in Java. How can you influence the behavior of the garbage collector?

**Multi-Threading**

1. What is multithreading, and why is it important in Java?
2. Explain the difference between process and thread. How does Java support multithreading?
3. Discuss the Thread class and the Runnable interface in Java?
4. What is the purpose of synchronization in multithreading?
5. Life cycle of Thread?

**Exception Handling**

1. What is exception handling?
2. Explain the difference between checked exceptions and unchecked exceptions in Java.
3. Discuss the purpose of the try, catch, and finally.
4. Explain the concept of custom exceptions in Java. When and why would you create a custom exception class?
5. Difference between Throw vs Throws?

**Java Collection Framework**

1. What is the Java Collections Framework, and why is it important?
2. What is Iterator? Why it is been used?
3. Purpose of list Interface?
4. Purpose of Set Interface?
5. Purpose Of Map interface?
6. Explain the difference between ArrayList and LinkedList.
7. Discuss the characteristics of the HashSet class.
8. Explain the concept of the Comparable interface and how it relates to sorting.
9. What is the difference between HashMap and Hashtable in Java?
10. Discuss the characteristics of the TreeSet class. How does it maintain elements in sorted order?

**Other Questions**

1. Difference Between Access Specifier and Access Modifier?
2. What is Enumeration?
3. What is Break and Continue?
4. What is type casting?
5. What is Recursion?
6. What is Wrapper classes?
7. Lambda Expression?
8. Is constructor Overridding Possible?
9. What is Lambda Expression?
10. What is Generic class, Generic method? And how will you declare it?