Java Basic Questions:

1. What is Java?
2. What are the differences between C++ and Java?
3. List the features of Java Programming language.
4. What do you understand about Java virtual machines?
5. What is the difference between JDK, JRE, and JVM?
6. How many types of memory areas are allocated by JVM?
7. What is a JIT compiler?
8. What gives Java its 'write once and run anywhere' nature?
9. What is a classloader?
10. Is Empty .java file name a valid source file name?
11. What if I write static public void instead of public static void?
12. What is the default value of the local variables?
13. What are the various access specifiers in Java?
14. What is the purpose of static methods and variables?
15. What are the advantages of Packages in Java?
16. What is an object?
17. What will be the initial value of an object reference which is defined as an instance variable?

Java Data Types Assignments

18. What are the eight primitive data types in Java?
19. Explain the differences between primitive data types and reference data types.
20. What is autoboxing in Java?
21. What are the eight primitive data types in Java and their default values?
22. What is the default value of the boolean data type in Java?
23. What is the size of the int data type in Java?
24. Explain the long data type and how to denote a long literal?
25. What is the difference between float and double data types?
26. How can you convert a double to a float in Java?
27. How can you convert a String to an int in Java?
28. What is the difference between break and continue statements in loops?
29. Explain the difference between int and Integer in Java.
30. What is the difference between local variables and instance variables?
31. How can you declare and initialize a constant in Java?

Java Conditional Statement Assignments:

32. Write a program to check if a number is divisible by 7 or not?
33. Write a program to check if a number is multiple of 3 or not?
34. Write a program to check if a number is positive or not?
35. Write a program to check if a number is 3-digit numbers or not?
36. Write a program to print even or odd for a given number?
37. Write a program to print the greatest number in given two numbers?
38. Write a program to print the least number given two numbers?
39. Write a program to print the greatest number in given three numbers?

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40. Write a program to print the least number in given three numbers?
41. Write a program to print the given 3 numbers in ascending orders?
42. Write a program to print the given 3 numbers in descending orders?
43. JavaScript Program to find largest of Three Numbers?

Java For Loop,While and do While loop

44. What Types of Loops Does Java Support?
45. What Is an enhancement **for Loop**?
46. Write a Java program to print first 5 values which are divisible by 2; 3 and 5
47. Write a java program to print numbers between 1 to 100 which are divisible by 3; 5 and by both.
48. Java Program for Find largest prime factor of a number?
49. What happens when we forget to break the switch case?
50. Write a program to print 1 to 10 numbers using a while loop.
51. Write a program to print 10 to 1 number using a while loop.
52. Write a program to print 5 to 15 numbers using For Loop.
53. Write a program to print 15 to 10 numbers using Loop.
54. Write a program to print 1 to 10 even numbers using a while loop.
55. Write a program to print 1 to 10 odd numbers using For Loop.
56. Write a program first ten multiples of 4 using a while loop
    a. (Multiple of 4 are 4, 8, 12, 16.)
57. Write a program to print a multiplication table of 6 using a while loop.
58. Write a program Factors of 24 using while loop
    a. (Factors of 24 are 1, ,3, 4, 6, 12, 24)
59. Write a program to print reverse of digits of numbers
60. Write a program to read 5 numbers and print only the even numbers
61. Write a program to print the Fibonacci number series up to a given number
    a. Expected out 17 -: 0 1 1 2 3 5 8 13
62. Write a program to check if a given number is an Armstrong number or not.

Java Data Type & Operators - Questions:

63. What are the Wrapper classes available for primitive types ?
64. Difference between long.Class and Long.TYPE ?
65. What are wrapper classes ?
66. What is casting?
67. What are the default or implicitly assigned values for data types in java ?
68. What is the advantage of using arrays over variables?
69. What are the disadvantages of using arrays?
70. Advantage of Collection classes over Arrays?
71. What are the Disadvantages of using Collection Classes over Arrays ?
72. What is the difference between Data Type and Data Structure ?
73. Do you see Class as a Data Type or Data Structure?
74. What are the types of operators based on the number of operands?
75. What is Unary operator in Java?
76. What is a Binary operator in Java?
77. What is Ternary operator in Java?
78. What are Arithmetic operators in Java?

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Java - Arrays Questions?

79. On which memory arrays are created in Java?
80. What is an array in Java?
81. What are the types of an array?
82. Is it possible to declare array size as negative?
83. How to copy an array in Java?
84. What is the default value of the array?
85. What is an anonymous array that also gives an example?
86. How many ways to find the duplicate elements in an array?
87. Which operations can be performed on an array?
88. Write a program to check whether two given Arrays are equal, given both contain the same data type and same length ?
89. How to find the missing number in a given Array from number 1 to 100 ?
90. Write a program to search a specific element in an Array?
91. What will happen if you do not initialize an Array?
92. How to find duplicate elements in a given Array?
93. What are the different ways to traverse an Array in java?
94. WAP to find out the smallest and largest number in a given Array?
95. How to reverse an Array in Java ?
96. Write a program to sum all the values of a given Array in java?
97. WAP how do you separate zeros and non-zeros in a given Array in java?
98. How to convert Array to ArrayList in java ?
99. How to convert ArrayList to String Array in java ?
100. Write a program to find the second largest element in a given Array in java?
101. How to check if Array contains the desired value or not ?
102. Write a program to find the first repeating number in an integer Array?
103. What is the difference between Array and ArrayList?
104. How can we check if an array contains values or not?
105. What are the advantages and disadvantages of an array?
106. Can you change the size of Array in java after creation?
107. Write a program to sort an Array in Java ?

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Java 8 , Java collections - Interview Question

108. Write a program to traverse (or iterate) ArrayList?
109. write a program to check if element(value) exists in ArrayList?
110. Write a program to convert List to Array.
111.   Write a program to convert Array to List?
112. Write a program to find the length of the ArrayList?
113. Write a program to sort ArrayList using Comparable and Comparator?
114. Write a program to sort ArrayList in descending order?
115. Write a program to add elements at a particular index of ArrayList?
116. Write a program to remove elements from the specified index of ArrayList?
117. Write a program to convert LinkedList to ArrayList?
118. Write a program to reverse ArrayList in java?
119. How to serialize an ArrayList in java?
120. How to synchronize an ArrayList in java?
121. How do you find if an ArrayList contains an Object or not?
122. What is the difference between ArrayList and Vector in Java?
123. What is the difference between LinkedList and ArrayList in Java?
124.   What is the default size of ArrayList and HashMap in Java?
125. What is CopyOnWriteArrayList in Java?
126.   What is the difference between ListIterator and Iterator in Java?
127.   What is the difference between ArrayList and ArrayList<?> in Java?
128. Write a program to traverse(or iterate) HashSet?
129. write a program to check if an element exists in HashSet?
130. Write a program to convert HashSet to Array?
131. What is the difference between LinkedHashSet and TreeSet in Java?
132. When do you use EnumSet in Java?
133. Write a program to add elements to the HashMap given the key and value data type is String?
134. Write a program to sort HashMap by keys ?
135. Write a program to iterate TreeMap in java?
136. Write a program to sort HashMap by value?
137. How to serialize a HashMap in java?
138. How to synchronize a HashMap in java?
139. What is IdentityHashMap in Java?
140. What is the difference between HashMap and Hashtable in Java?
141. How does ConcurrentHashMap work in Java?
142. What is the difference between Hashtable and ConcurrentHashMap in Java?
143. Difference between IdentityHashMap and WeakHashMap in Java?
144. What is PriorityQueue in Java?
145. What is DeQueue? When do you use it?

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146. What is the difference between the peek() and poll() method of the Queue interface?
147. When do you use BlockingQueue in Java?
148. What do you mean by thread-safe collection? Give an example of a 2 thread-safe Collection in Java?
149. What is the relationship between equals and compareTo in Java?
150. What is the load factor, capacity, and Size of the Collection in Java?
151. What is the difference between Iterator and Enumeration in Java?
152. How to create a read-only Collection in Java?
153. How do you remove an Object from the Collection?
154. What is the "diamond" operator in Java?
155. Stack Program in Java?

Java Interview Questions

156. What is a class?
157. What is an object?
158. Differentiate between object and reference?
159. Can we implement multiple inheritance in Java?
160. Can we implement hybrid inheritance in Java?
161. Differentiate between an abstract class and an interface.
162. Differentiate between method overloading and method overriding.
163. How can you implement dynamic polymorphism in Java?
164. Package statement should always come on top"-is it true?What is JVM?
165. Differentiate between JRE and JDK.
166. What is an inner class?
167. How can you create a static class in java?
168. How can you implement abstraction and encapsulation in Java?
169. Differentiate between a static binding and a dynamic binding in Java.
170. What is the use of super in Java?
171. What is/are the use/s of this in Java?
172. What is the use of default in Java?
173. Can you use an abstract class without an abstract method?
174. Can you inherit constructors?
175. What is the use of final in Java?
176. Differentiate between an instance method and a class method (static method)?

177. Can you create a static block? What is its use?
178. What is the default package in Java?
179. Does Java support pointers?
180. What is an exception?

181.   What is the superclass of Exception?

182.   What do you mean by checked exceptions?

183.   What do you mean by unchecked exceptions?

184.   How can you create your own exception?

185.   Mention some examples of error conditions.

186.   What is the difference between throw and throws?

187.   What will happen if you encounter an exception in the finally block?

188.   What is the drawback of handling exceptions?

189.   What is the advantage of handling exceptions?

190.   What do you mean by chained exceptions?

191.   What are the key methods associated with chained exceptions?

192.   What is garbage collection?

193.   What is finalization?

194.   How can you remove memory leaks in Java?

195.   What is the purpose of a constructor?

196.   What are the different types of constructors?

197.   How can you differentiate a user defined no-argument constructor with a default constructor in Java?

198.   Can the use of default methods in the interfaces lead to diamond problems in Java?

199.   Java does not support multiple inheritance through classes but C++ supports. Do you treat it as an advantage or disadvantage of Java?

200.   Can multiple variables reference the same object in memory?

201.   What is constructor chaining?

202.   How can you pass a variable number of arguments inside a method?

203.   What is the difference between char in Java vs char in C/C++?

204.   What do you mean by automatic type conversion?

205.   Do you treat Java as a purely object oriented language? If not, why?

206.   Can a constructor be private?

207.   Can a constructor be final or abstract or static?

208.   Differentiate among final, finally and finalize.

209.   What is the difference between a default constructor and a no-argument constructor?

210.   Can we have both this() and super() in the same constructor? If not, why?

211.   Can we have backward inheritance?

212.   In an inheritance hierarchy, how can you decide a parent class or a child class?

213.   What is a blank final variable? How can you use it in your program?

214.   Can we override an overloaded method?

215.   If we make the main() method final, will we receive any compile time or run time error?

216. What are the advantages of a tagging interface?
217. Is there any alternative to marker interfaces?
218. Which one do you like- use of marker interfaces or use of marker annotations? Why?
219. How can you implement the concept of generalization/specialization in Java?
220. How can you implement the concept of realization in Java?
221. Is there any alternative to inheritance? What is that? When can you use that concept?
222. Does Java support structures? If not, why?
223. What is the basic difference between String and StringBuffer?
224. How you can distinguish a Java applet from a Java application.
225. What is the difference between StringBuffer and StringBuilder?
226. In which scenario, do you prefer StringBuilder over StringBuffer (and vice versa)?

Java - Lang Package - Interview Q & A / FAQ?

227. What is String in Java? Is String a data type?

228. Is String a Primitive or a Derived Type?

229. Is String a keyword in Java?

230. What are different ways to create String Objects?

231. How Is a String Stored in Memory?

232. How Can We Get a Character Array from String?

233. How many objects will be created in the following code and where they will be stored in the memory?

    a. String s1 = "abc";

    b. String s2 = "abc";

234. How Can We Check If a String Is a Palindrome or Not?

235. Write a method that will remove a given character from the String?

236. How can we make String uppercase or lowercase?

237. What is the String subSequence method?

238. What Are the Benefits of Strings Being Immutable?

239. Difference Between String, Stringbuffer and Stringbuilder?

240. How to compare two Strings in a Java program?

241. How Can We Convert a String to Uppercase and Lowercase?

242.   How to convert String to char and vice versa?

243.   How to convert String to byte array and vice versa?

244.   Can we use String in the switch case?

245.   How Can We Compare Two Strings in Java? What's the Difference Between str1 == str2 and str1.equals(str2)?

246.   Write a program to print all permutations of String?

247.   Write a function to find out the longest palindrome in a given string?

248.   Difference between String, StringBuffer and StringBuilder?

249.   Why String is immutable or final in Java

250.   How to Split String in java?

251.   WAP to reverse a String in Java?

252.   Why is Char array preferred over String for storing password?

253.   How do you check if two Strings are equal in Java?

254.   What is String Pool/String Constant Pool?

255.   Where exactly is the string constant pool located in the memory?

256.   Are Interned Strings Eligible for Garbage Collection in Java?

257.   What does the String intern() method do?

258.   What Is String.format() and How Can We Use It?

259.   Is String thread-safe in Java?

260.   How Can We Convert String to Integer and Integer to String in Java?

261.   Why is String a popular HashMap key in Java?

262.   How Can We Split a String in Java?

263.   How Can We Reverse a String in Java?

264.   Is String Thread-Safe? How?

265.   What Is Stringjoiner?

266.   How to find the maximum occurring character in a string in Java?

267.   How do you remove all white spaces from a string in Java?

268.   How do you find duplicate characters in a string?

269.   Count the Number of Occurrences of a Given Character in a String?

270.   Why Is It Safer to Store Passwords in a Char[] Array Rather Than a String?

271.   How to reverse a sentence word by word in Java?

272.   What is the difference between Java 8 - StringJoiner, String.join() and Collectors.joining()?

Java - Wrapper classes - Interview Q and A?

273.   What are wrapper classes?
274.   Why do we need Wrapper Classes in Java?
275.   What are the different ways of creating Wrapper Class Instances?
276.   What are the differences in the two ways of creating Wrapper Classes?
277.   What is Auto Boxing?
278.   What are the advantages of Auto Boxing?
279.   What is Casting?
280.   What is Implicit Casting?
281.   What is Explicit Casting?

What is a Singleton class in Java?

In Java, Singleton is a design pattern that ensures that a class can only have one object.

To create a singleton class, a class must implement the following properties:

● Create a **private constructor** of the class to restrict object creation outside of the class.
● Create a **private attribute** of the class type that refers to the single object.
● Create a **public static method** that allows us to create and access the object we created. Inside the method, we will create a condition that restricts us from creating more than one object.

What is a private constructor?

Ensure that no other can create objects for this class.

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Generate OTP Number using Java

```java
public class OTP {

    public static void main(String[] args) {
        double randomNum=Math.random();

        System.out.println(randomNum);//0.14155092044580664

        randomNum = randomNum * 10000;

        System.out.println(randomNum);//2824.794838000857

        int otp = (int)randomNum;
        System.out.println(otp);//2875
    }

}
```

Write a Program to Print Prime Number From 1 to 50 in Java?

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