



Java

Question

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1. What is Java?

➡ Java is a high-level, object-oriented programming language that is widely used for developing a variety of applications, including web, desktop, and mobile applications.

2. What is the difference between Java and JavaScript?

➡ Java and JavaScript are two different programming languages with different purposes. Java is used for building applications, while JavaScript is primarily used for adding interactivity to web pages.

3. What is the main principle of Java programming?

➡ Java follows the principle of "write once, run anywhere" (WORA), which means that Java code can be compiled into bytecode and executed on any platform that has a Java Virtual Machine (JVM).

4. What are the main features of Java?

➡ Some of the main features of Java include platform independence, object-oriented programming, automatic memory management (garbage collection), and strong type checking.

5. What is an event in JavaScript?

➡ An event is an action or occurrence that happens in the browser, such as a button click or page load. JavaScript can respond to these events by executing code in response.

6. What is the purpose of the "super" keyword in Java?

➡ The "super" keyword in Java is used to refer to the superclass of a class. It can be used to access superclass members, invoke



superclass constructors, or differentiate between superclass and subclass members with the same name.

7. What is a thread in Java?

➡ A thread in Java is a lightweight unit of execution within a program. It allows concurrent execution of multiple tasks or activities, enabling better utilization of system resources.

8. How do you create and start a thread in Java?

➡ Synchronization in Java is a technique used to control the access and execution of multiple threads to ensure that only one thread can access a shared resource or code block at a time.

9. What is synchronization in Java?

➡ The `let` keyword is used to declare block-scoped variables in JavaScript. Variables declared with `let` are only accessible within the block where they are defined.

10. What is the difference between the "synchronized" block and the "synchronized" method?

➡ A "synchronized" block in Java allows a specific block of code to be synchronized, ensuring that only one thread can execute it at a time. A "synchronized" method applies synchronization to the entire method, making it mutually exclusive for all threads.

11. 51. What is the difference between an interface and an abstract class?

➡ An interface in Java can only declare method signatures and constants but cannot provide implementations, while an abstract class can provide implementations. A class can implement multiple interfaces but can inherit from only one abstract class.

12. What is the purpose of the "default" keyword in interface



methods? ➡ The "default" keyword in Java interfaces is used to define a default implementation for a method. It allows adding new methods to existing interfaces without breaking the implementations of classes that implement those interfaces.

13. What is the difference between a BufferedReader and a Scanner?

➡ A BufferedReader in Java reads text from a character stream with efficient buffering, while a Scanner can parse different types of data from various sources such as files, strings, or standard input.

14. What is the purpose of the "StringBuilder" class in Java?

➡ The "StringBuilder" class in Java is used to create and manipulate mutable sequences of characters. It is more efficient than concatenating strings using the "+" operator, as it avoids unnecessary object creations.

15.. What is the difference between the "Comparable" and "Comparator" interfaces?

➡ The "Comparable" interface is used to define a natural ordering for a class by implementing the "compareTo()" method. The "Comparator" interface, on the other hand, provides a way to define custom ordering by implementing the "compare()" method and is independent of the class being compared.

16. What is the difference between a public class and a default (package-private) class?

➡ A public class in Java can be accessed from any other class, regardless of the package they belong to. A default class, also known as a package-private class, is only accessible within the same package and cannot be accessed from outside the package.

17. What is the purpose of the "enum" keyword in Java?



➡The "enum" keyword in Java is used to define an enumeration, which is a special type that represents a fixed set of constants. It allows for more structured and type-safe representation of predefined values.

18. What is the purpose of the "break" and "continue" statements in Java?

➡The "break" statement in Java is used to terminate the execution of a loop or switch statement and resume execution after the loop or switch block. The "continue" statement is used to skip the current iteration of a loop and move to the next iteration.

19. What is the purpose of the "try-with-resources" statement in Java

➡ The "try-with-resources" statement in Java is used to automatically close resources that implement the "AutoCloseable" interface. It ensures that resources, such as file streams or database connections, are properly closed, even if an exception occurs.

20. What is the purpose of the "instanceof" operator in Java?

➡The "instanceof" operator in Java is used to check whether an object is an instance of a specific class or implements a specific interface. It returns a boolean value indicating the result of the check .

21. What is the purpose of the "FileNotFoundException" in Java?

➡ The "FileNotFoundException" in Java is an exception that is thrown when an attempt to access a file that does not exist or cannot be found is made. It is typically caught and handled to handle file-related errors.

22. What is the purpose of the "NullPointerException" in Java?

➡ The "NullPointerException" in Java is an exception that is thrown when a null reference is accessed and used where an object



reference is expected. It indicates a programming error and should be handled or prevented to avoid unexpected crashes.

23. What is the purpose of the "ArrayIndexOutOfBoundsException" in Java?

➡ The "ArrayIndexOutOfBoundsException" in Java is an exception that is thrown when an invalid index is used to access an array. It indicates that the index is either negative or exceeds the array's bounds.

24. What is the purpose of the "ArithmeticException" in Java?

➡ The "ArithmeticException" in Java is an exception that is thrown when an arithmetic operation produces an illegal or undefined result. It typically occurs when dividing by zero or performing unsupported mathematical operations.

25. What is the purpose of the "NumberFormatException" in Java?

➡ The "NumberFormatException" in Java is an exception that is thrown when a string cannot be parsed into a numeric value of the expected format. It occurs when attempting to convert a string to an integer, float, or double, but the string does not represent a valid number.

26. What is the purpose of the "abstract" keyword in Java?

➡ The "abstract" keyword in Java is used to define abstract classes or methods. An abstract class cannot be instantiated and serves as a base class for subclasses. An abstract method does not have an implementation and must be overridden in a subclass.

27. What is the purpose of the "interface" keyword in Java?

➡ The "interface" keyword in Java is used to define interfaces, which declare methods that implementing classes must provide. It allows for multiple inheritance by implementing multiple interfaces and enables the concept of polymorphism.



28. What is the purpose of the "package" keyword in Java?

➡The "package" keyword in Java is used to define a package, which is a way to organize related classes and interfaces. It provides a hierarchical structure and helps prevent naming conflicts between classes.

29. What is the purpose of the "import" keyword in Java?

➡The "import" keyword in Java is used to import classes, interfaces, or packages into a source file. It allows using classes from other packages without specifying their fully qualified names.

30. What is the purpose of the "throw" keyword in Java?

➡The "throw" keyword in Java is used to manually throw an exception. It is typically used when a program encounters an error or exceptional situation that cannot be handled, and the control should be transferred to an exception handle

31. What is the purpose of the "Character" class in Java?

➡The "Character" class in Java provides methods for working with individual characters, such as checking for character types (letters, digits, whitespace), converting case, and performing character-based operations.

32. What is the purpose of the "Integer" class in Java?

➡The "Integer" class in Java is a wrapper class that provides methods for working with integer values, such as converting strings to integers, performing arithmetic operations, and converting integers to different representations (binary, hexadecimal).

33. What is the purpose of the "Double" class in Java?

➡The "Double" class in Java is a wrapper class that provides methods for working with double-precision floating-point values. It offers functionality for parsing strings, performing arithmetic



operations, and converting doubles to different representations (binary, hexadecimal).

34. What is the purpose of the "System" class in Java?

➡The "System" class in Java provides access to system resources and allows interaction with the system environment. It contains methods for standard input/output, error output, current time, copying arrays, and more.

35. What is the purpose of the "File" class in Java?

➡The "File" class in Java is used to represent and manipulate file and directory paths. It provides methods for creating, deleting, renaming, and querying file properties such as size, last modified date, and permissions.

36. What is the purpose of the "volatile" keyword in Java?

➡The "volatile" keyword in Java is used to indicate that a variable's value may be modified by multiple threads. It ensures that any read or write operation on the variable is directly performed on the main memory, rather than relying on CPU caches.

37. What is an exception in Java?

➡An exception in Java is an event that occurs during the execution of a program, which disrupts the normal flow of instructions. It represents an error condition or an exceptional circumstance.

38. What is the difference between checked and unchecked exceptions?

➡Checked exceptions are checked at compile-time, and the programmer is required to handle or declare them using the "throws" keyword. Unchecked exceptions, on the other hand, are not checked at compile-time, and the programmer is not obligated to handle or declare them.



39. How do you handle exceptions in Java? ➡ Exceptions in Java can be handled using try-catch blocks. The code that may throw an exception is placed inside the try block, and if an exception occurs, it is caught and handled in the catch block. **40.**

What is the purpose of the "StringBuilder" class in Java? ➡The "StringBuilder" class in Java is used to create and manipulate mutable sequences of characters. It provides methods for appending, inserting, deleting, and modifying character sequences efficiently.

41. What is the purpose of the "HashSet" class in Java?

➡ The "HashSet" class in Java is an implementation of the Set interface that stores unique elements in no particular order. It provides constant-time performance for basic operations like adding, removing, and checking for the presence of elements.

42. What is the purpose of the "HashMap" class in Java?

➡ The "HashMap" class in Java is an implementation of the Map interface that stores key value pairs. It provides fast retrieval and insertion of elements based on their keys and allows for efficient mapping and lookup operation

43. What is the difference between null and undefined?

➡ null is an explicitly assigned value that represents the absence of an object, while undefined is a value assigned by the JavaScript engine to variables that have been declared but have not been assigned a value.

44. What is the purpose of the "LinkedList" class in Java?

➡ The "LinkedList" class in Java is an implementation of the List interface that uses a doubly-linked list to store elements. It provides efficient insertion and removal of elements at both ends of the list



but slower random access. 85. What is the purpose of the "Comparator" interface in Java

45. What is the purpose of the "Comparable" interface in Java?

➡ The "Comparable" interface in Java is used to define the natural ordering of objects of a class. It provides a method, "compareTo()", that allows objects to be compared and sorted based on their natural order.

46. What is the purpose of the "assert" keyword in Java?

➡ The "assert" keyword in Java is used to perform assertions, which are checks placed in the code to verify specific conditions. It is primarily used during development and testing to catch potential bugs or invalid assumptions.

47. What is the difference between a local variable and an instance variable?

➡ A local variable in Java is declared inside a method or a block and has a limited scope within that method or block. An instance variable, also known as a member variable, is declared within a class but outside any method and is accessible to all methods of the class.

48. What is the purpose of the "transient" keyword in Java?

➡ The "transient" keyword in Java is used to indicate that a variable should not be serialized during object serialization. When an object is deserialized, transient variables are set to their default values.

49. What is the purpose of the "static" block in Java?

➡ The "static" block in Java is used to initialize static variables or perform one-time initialization tasks for a class. It is executed when the class is loaded into memory, before any objects of that class are created.

50. What is the purpose of the "strictfp" keyword in Java?







Thank you !
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