**1. What is the purpose of the 'static' keyword in Java?**

* A. To define a constant
* B. To declare a static method
* C. To indicate that a variable or method belongs to the class, not an instance
* D. Both B and C

**2. What is the default value of a local variable in Java?**

* A. 0
* B. null
* C. Depends on the variable type
* D. Not defined

**3. In Java, which method is called when an object is created?**

* A. start()
* B. run()
* C. init()
* D. constructor()

**4. What is the main purpose of the 'super' keyword in Java?**

* A. To access the superclass of a derived class
* B. To call the superclass constructor
* C. To invoke the superclass method
* D. All of the above

**5. Which of the following statements is true about the 'final' keyword in Java?**

* A. A final class cannot be extended
* B. A final method cannot be overridden
* C. A final variable cannot be modified after initialization
* D. All of the above

**6. What is the purpose of the 'break' statement in Java?**

* A. To terminate a loop or switch statement
* B. To skip the current iteration of a loop
* C. To exit a method
* D. Both A and B

**7. Which collection class allows duplicate elements in Java?**

* A. HashSet
* B. TreeSet
* C. ArrayList
* D. HashMap

**8. What is the difference between '== 'and '.equals()' in Java when comparing objects?**

* A. '==' compares object references, while '.equals()' compares the content of objects
* B. They are used interchangeably
* C. '==' is used for primitive types, and '.equals()' is used for objects
* D. There is no difference

**9. What is the purpose of the 'interface' keyword in Java?**

* A. To define a class
* B. To create an abstract class
* C. To define a protocol or contract for a class
* D. To declare a variable

**10. What is the output of the following code snippet:**

String str1 = "Hello";

String str2 = new String("Hello");

System.out.println(str1 == str2);str2);

* A. true
* B. false
* C. Compilation error
* D. Runtime error

**11. Which of the following is true about the 'this' keyword in Java?**

* A. It refers to the current class instance
* B. It refers to the current class's static variable
* C. It refers to the superclass instance
* D. It is used to create an instance of a class

**12. What is the purpose of the 'finally' block in a try-catch-finally statement?**

* A. To handle exceptions
* B. To execute code regardless of whether an exception occurs or not
* C. To terminate the program
* D. To catch multiple exceptions

**13. What is the output of the following code snippet:**

int x = 5;

System.out.println(x++ + ++x);

* A. 11
* B. 12
* C. 13
* D. 14

**14. Which keyword is used to prevent a method from being overridden in a subclass?**

* A. override
* B. final
* C. abstract
* D. static

**15. What is the purpose of the 'instanceof' operator in Java?**

* A. To compare two objects for equality
* B. To check if an object is an instance of a particular class or interface
* C. To create a new instance of a class
* D. To determine the size of an object

**16. What is the role of the 'throws' clause in a method signature?**

* A. To declare checked exceptions that the method may throw
* B. To declare unchecked exceptions that the method may throw
* C. To specify the return type of the method
* D. Both A and B

**17. What is the purpose of the 'compareTo' method in the Comparable interface?**

* A. To compare the content of two objects
* B. To compare the memory addresses of two objects
* C. To compare the size of two objects
* D. To compare the natural ordering of two objects

**18. Which method is called automatically when an object is eligible for garbage collection?**

* A. finalize()
* B. destroy()
* C. cleanup()
* D. delete()

**19. What is the difference between 'ArrayList' and 'LinkedList' in Java?**

* A. ArrayList is synchronized, while LinkedList is not
* B. ArrayList uses a dynamic array, while LinkedList uses a doubly linked list
* C. ArrayList allows random access, while LinkedList does not
* D. Both B and C

**20. What is the purpose of the 'transient' keyword in Java?**

* A. To make a variable thread-safe
* B. To declare a variable that should not be serialized
* C. To declare a constant
* D. To declare an abstract class

**21. What is the output of the following code snippet:**

int[] numbers = {1, 2, 3, 4, 5};

System.out.println(numbers[5]);

* A. 5
* B. Compilation error
* C. Runtime error
* D. 0

**22. What is the purpose of the 'Thread.sleep()' method in Java?**

* A. To make the current thread sleep for a specified amount of time
* B. To stop the execution of the program
* C. To release the lock on an object
* D. To terminate a thread

**23. Which design pattern is used for creating objects without specifying the exact class of the object that will be created?**

* A. Singleton pattern
* B. Factory pattern
* C. Observer pattern
* D. Builder pattern

**24. What is the purpose of the 'volatile' keyword in Java?**

* A. To declare a variable that cannot be changed
* B. To make a variable visible to all threads and prevent caching
* C. To declare a variable that can only be accessed within the same package
* D. To synchronize methods in a class

**25. What is the difference between 'throw' and 'throws' in Java?**

* A. 'throw' is used to explicitly throw an exception, while 'throws' is used to declare exceptions that a method may throw
* B. 'throw' is used in the method signature, while 'throws' is used in the method body
* C. 'throw' is used for checked exceptions, while 'throws' is used for unchecked exceptions
* D. There is no difference