

1. What is the default value of a boolean variable in Java?

A) true

B) false

C) 0

D) null

2. Which of the following is not a primitive data type in Java?

A) int

B) float

C) String

D) char

3. Which data type is used to store a character in Java?

A) String

B) char

C) Character

D) byte

4. What is the size of an int data type in Java?

A) 8 bits

B) 16 bits

C) 32 bits

D) 64 bits

5. Which data type can hold the largest range of values?

A) byte

B) short

C) int

D) long

6. What is the default value of a char variable in Java?

- A) 0
- B) null
- C) "

D) '\u0000'

7. Which of the following declarations is correct for a float variable?

- A) float f = 5.5;
- B) float f = 5.5f;
- C) float f = (float)5.5;

D) Both B and C

8. How many bytes does a double data type occupy in Java?

- A) 4
- B) 8
- C) 16
- D) 32

9. What will be the output of: int a=10; int b=20; System.out.println(a + b);

- A) 10 B) 20 C) 30 D) null

10. Which of the following is the correct way to declare a variable?

- A) int 1number; B) int number-1; C) int number1; D) int number 1;

11. What is the value of byte variable b after: byte b=10; b = b + 5;

- A) 10 B) 15 C) Compilation error D) null

12. Which is a valid declaration of an int array?

- A) int arr[]; B) int arr = new int[5]; C) int arr[5]; D) Both A and B

13. What does System.out.println(c + 1) print if c='A'?

- A) A B) B C) 66 D) 65

14. What is the range of short data type?

A) -128 to 127 B) -32768 to 32767 C) -2^{31} to $2^{31}-1$ D) 0 to 255

15. Which keyword declares a constant variable?

A) static B) const C) final D) immutable

16. What will be the result of $5 / 2$ in integer arithmetic?

A) 2 B) 2.5 C) 2.0 D) 3

17. Which data types can hold decimal numbers?

A) decimal B) double C) float D) Both B and C

18. What is the entry point method of a Java application?

A) start() B) run() C) main() D) init()

19. Which cannot be used as a variable name?

A) identifier B) keyword C) &none D) underscore

20. How do you comment a block in Java?

A) `// ...` B) `!--...--` C) `/* ... */` D) `...`

21. Byte arithmetic automatically promotes variables to which type?

A) long B) short C) int D) long

22. What does the 'this' keyword refer to?

A) Local variable B) Current instance C) Class D) Parent constructor call

23. What does the 'super' keyword refer to?

A) Method call B) 'this' reference C) Superclass members D) None

24. Which class is immutable in Java?

A) String B) StringBuffer C) StringBuilder D) StringJoiner

25. Which operator concatenates strings?

A) + B) && C) || D) ++

26. What collection stores unique unordered elements?

A) ArrayList B) HashMap C) HashSet D) LinkedList

27. What does '==' compare on objects?

A) content B) reference C) hash D) case

28. Which interface is used for natural ordering?

A) Cloneable B) Comparable C) Iterable D) Serializable

29. What is an abstract class used for?

A) Cannot instantiate B) Template for subclasses C) Multiple inheritance D) Both A & B

30. Which keyword defines an abstract class?

A) final B) abstract C) virtual D) static

31. What kind of relationship does inheritance represent?

A) aggregation B) composition C) is-a D) has-a

32. What is polymorphism?

A) Same form B) Many forms C) Single behavior D) Static binding

33. What is compile-time polymorphism?

A) method overloading B) method overriding C) inheritance D) interface

34. What is runtime polymorphism?

A) overload **B) override** C) inheritance D) template

35. Can static methods be overridden?

A) Yes **B) No** C) Partial D) Depends

36. Which keyword defines an interface?

A) interface B) class C) implements D) extends

37. Are default methods allowed in Java 8 interfaces?

A) yes B) no C) maybe D) not sure

38. Which keyword defines an enum type?

A) enum B) extends C) implements D) final

39. Enum implicitly extends which class?

A) Enum B) Object C) interface D) Serializable

40. What exception is thrown on illegal monitor misuse?

A) IllegalMonitorException **B) IllegalMonitorStateException** C) MonitorException D) SynchronizationException

41. Which keyword is used to catch exceptions?

A) try **B) catch** C) final D) throw

42. Which block executes regardless of exception?

A) catch B) try **C) finally** D) none

43. What exception arises dividing by zero with int?

A) NullPointerException **B) ArithmeticException** C) IndexOutOfBoundsException D) Exception

44. Which is a checked exception?

A) NullPointerException B) ArithmeticException C) FileNotFoundException D) ArrayIndexOutOfBoundsException

45. Which method converts an object to string?

A) toString() B) toStr() C) string() D) display()

46. What is boxing in Java?

A) Primitive to object B) Object to primitive C) String to int D) int to String

47. Wrapper class for 'int'?

A) Integer B) Int C) Number D) String

48. Purpose of garbage collection?

A) Manual delete B) Free memory of unused objects C) Optimize code D) Backup data

49. What does 'volatile' keyword do?

A) Immutable B) No change C) Thread visibility D) Thread locking

50. What does 'transient' keyword do?

A) Skip serialization B) None C) const D) var