Java questions

1. What is the default value of an `int` variable in Java?
   a) 0
   b) 1
   c) Null
   d) Undefined

2. Which of the following is NOT a Java keyword?
   a) static
   b) main
   c) void
   d) private

3. What will be the output of `System.out.println(10 + 20 + "Java");`?
   a) 10Java20
   b) Java1020
   c) 30Java
   d) Compilation Error

4. Which of these data types can store fractional numbers in Java?
   a) int
   b) float
   c) boolean
   d) char

5. What is the size of the `char` data type in Java?
   a) 1 byte
   b) 2 bytes
   c) 4 bytes
   d) 8 bytes

6. Which of the following is NOT a valid identifier in Java?
   a) _Java123
   b) $variable
   c) 2javaVar
   d) myVar

7. What is the range of values for the `byte` data type in Java?
   a) -128 to 127
   b) 0 to 255
   c) -32,768 to 32,767

d) -2^31 to 2^31 - 1

8. Which of the following is used to read input in Java?
   a) Scanner
   b) InputStream
   c) BufferedReader
   d) All of the above

9. What does `System.out.println(Math.ceil(4.2));` return?
   a) 4.0
   b) 5.0
   c) 4.2
   d) Compilation Error

10. What is the correct way to declare a constant in Java?
    a) `final int MAX = 100;`
    b) `int final MAX = 100;`
    c) `constant int MAX = 100;`
    d) `MAX = 100;`

11. What is the output of `System.out.println(10/3);`?
    a) 3
    b) 3.33
    c) 3.0
    d) Compilation Error

12. Which operator is used for bitwise AND in Java?
    a) &   b) &&   c) | d) ||

13. What will be the output of:

```
int x = 5;

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

    a) 10
    b) 11
    c) 12
    d) 13

14. Which statement is used to exit a loop in Java?
    a) return
    b) continue
    c) break
    d) exit

15. What will `System.out.println(5 == 5.0);` return?
    a) true
    b) false
    c) Compilation Error
    d) Runtime Exception

16. What is the output of the following Java statement?
    `System.out.println(10 > 5 ? "Java" : "Python");`

    a) Java
    b) Python
    c) Compilation Error
    d) None of the above

17. How many times will the loop execute?

    `for(int i = 1; i <= 5; i++) { }`

    a) 4
    b) 5
    c) 6
    d) Infinite

18. What is the output of `System.out.println(5 & 3);`?
    a) 1
    b) 3
    c) 5
    d) 7

19. The `switch` statement in Java works with:
    a) int, char
    b) String, enum
    c) Both a and b
    d) Only int

20. What is the output of `System.out.println(10 + "20");`?
    a) 30
    b) 1020
    c) Compilation Error
    d) 20

21. Which keyword is used to create an object in Java?
    a) allocate
    b) new
    c) class
    d) object

22. Which of the following is NOT a feature of OOP?
    a) Encapsulation
    b) Polymorphism
    c) Compilation
    d) Inheritance

23. What is method overloading in Java?
    a) Methods with the same name but different return types
    b) Methods with the same name but different parameter lists
    c) Methods with different names but same return types
    d) None of the above

24. What is the default access modifier in Java?
    a) public
    b) private
    c) protected
    d) package-private

25. Which of the following is used to achieve abstraction?
    a) Abstract class
    b) Interface
    c) Both a and b
    d) None

26. Which keyword is used to handle exceptions in Java?
    a) throw
    b) catch
    c) try
    d) Both b and c

27. What happens when an exception is not handled in Java?
    a) Compilation Error
    b) The program terminates
    c) The program runs normally
    d) None of the above

28. Which class is the parent of all exception classes?
    a) RuntimeException
    b) Throwable
    c) Exception
    d) Error

29. How do you create a thread in Java?
    a) Extend `Thread` class
    b) Implement `Runnable` interface
    c) Both a and b
    d) None

30. What is the default priority of a thread in Java?
    a) 1
    b) 5
    c) 10
    d) 0

31. Which collection allows storing key-value pairs in Java?
    a) List
    b) Set
    c) Map
    d) Queue

32. What is the size of an empty ArrayList?
    a) 0
    b) 1
    c) -1
    d) 10

33. Which interface provides a resizable array?
    a) List
    b) Set
    c) Map
    d) Queue

34. What is the time complexity of inserting an element in a HashMap?
    a) O(1)
    b) O(log n)
    c) O(n)
    d) O(n log n)

35. Which of the following is synchronized?
    a) HashMap
    b) Hashtable
    c) ArrayList
    d) None

Answer Key

1. **a**
2. **b**
3. **c**
4. **b**
5. **b**
6. **c**
7. **a**
8. **d**
9. **b**
10. **a**
11. **a**
12. **a**
13. **d**
14. **c**
15. **a**
16. **a**
17. **b**
18. **a**
19. **c**
20. **b**
21. **b**
22. **c**
23. **b**
24. **d**
25. **c**
26. **d**
27. **b**

28. **b**
29. **c**
30. **b**
31. **c**
32. **a**
33. **a**
34. **a**
35. **b**