Interview Questions & Answers

Topics: Loops, Operators, Conditional Statements

1. What is a loop? – A loop executes a block of code repeatedly until a condition becomes false.

2. Difference between for and while loop? – for is used when iterations are known; while is used when unknown.

3. Difference between while and do-while? – do-while runs at least once.

4. Can a for loop run infinitely? – Yes, if condition never becomes false.

5. What happens if loop condition is false initially? – for/while won't execute, do-while executes once.

6. What is a nested loop? – A loop inside another loop.

7. Time complexity of nested loop? – Generally $O(n^2)$.

8. What is break? – Terminates loop immediately.

9. What is continue? – Skips current iteration.

10. Can break be used outside loop? – No.

11. Output of loop with break at i==3? – 012

12. Output of while loop i<3? – 012

13. Is recursion better than loop? – No, loops are more memory efficient.

14. Which loop is fastest? – Depends on use case; difference is negligible.

15. Can loop variable be modified inside loop? – Yes, but risky.

16. What are operators? – Symbols that perform operations.

17. Types of operators? – Arithmetic, Relational, Logical, Assignment, Bitwise, Unary, Ternary.

18. Difference between = and ==? – Assignment vs comparison.

19. What is modulo operator? – Returns remainder.

20. What is operator precedence? – Order of evaluation.

21. Output of x++ + ++x (x=10)? – 22

22. Difference between ++i and i++? – Pre-increment vs post-increment.

23. What are logical operators? – &&, ||, !

24. Difference between && and &? – Short-circuit vs non-short-circuit.

25. What is short-circuit evaluation? – Stops evaluation early.

26. What is ternary operator? – Short form of if-else.

27. Output of ternary (5,10)? – 10

28. Can ternary replace if-else? – Yes, for simple cases.

29. What are bitwise operators? – Operate on bits.

30. Use of instanceof? – Checks object type.

31. What are conditional statements? – Control flow based on conditions.

32. Types of conditional statements? – if, if-else, else-if, switch.

33. Difference between if-else and switch? – Conditions vs fixed values.

34. Can switch work with String? – Yes (Java 7+).

35. Can switch use float? – No.

36. Output if x=5 and condition x>5? – B

37. What is dangling else? – Ambiguous else binding.

38. How to avoid dangling else? – Use braces.

39. Can if exist without else? – Yes.

40. Can conditions be nested? – Yes.

41. Output of nested if example? – A

42. What is fall-through in switch? – Execution continues without break.

43. Is default case mandatory? – No.

44. Can multiple cases share code? – Yes.

45. Which is faster if-else or switch? – switch for many cases.

46. Can logical operators be used in if? – Yes.

47. What is compound condition? – Multiple conditions combined.

48. Output of logical AND example? – No

49. Can if be replaced by loop? – No.

50. Most common conditional mistake? – Using = instead of ==.