

Java Loops – Detailed Notes, Interview Questions & Practice Problems

1. What are Loops in Java?

Loops in Java are used to execute a block of code repeatedly as long as a given condition is true.

2. Types of Loops in Java

- 1 for loop
- 2 while loop
- 3 do-while loop
- 4 enhanced for loop (for-each)

3. for Loop

Used when number of iterations is known.

Syntax: `for(initialization; condition; increment){ }`

4. while Loop

Used when number of iterations is not known.

Syntax: `while(condition){ }`

5. do-while Loop

Executes at least once.

6. Enhanced for Loop

Used for arrays and collections.

7. Difference Between for and while Loop

- 1 for loop: known iterations
- 2 while loop: unknown iterations
- 3 for loop: compact syntax
- 4 while loop: flexible condition

8. Important Interview Questions

- 1 What is loop in Java?
- 2 Difference between while and do-while?
- 3 When to use for loop?
- 4 What is infinite loop?
- 5 Can for loop have multiple variables?
- 6 What is enhanced for loop?
- 7 Difference between break and continue?
- 8 Can loop run without body?
- 9 Which loop executes at least once?
- 10 Which loop is best for arrays?

9. 20 Beginner Level Problems

- 1 Print numbers from 1 to N
- 2 Print even numbers
- 3 Print odd numbers
- 4 Sum of N numbers
- 5 Factorial
- 6 Multiplication table
- 7 Count digits
- 8 Reverse number
- 9 Palindrome number
- 10 Prime check
- 11 Fibonacci series
- 12 Sum of digits
- 13 Reverse printing
- 14 Count vowels
- 15 Largest digit
- 16 Star pattern
- 17 Armstrong number
- 18 Power of number
- 19 GCD
- 20 ASCII values