

Java Topic-Wise Checklist for DSA + Interview

Java Basics

- Variables, Data Types, Type Casting
- Operators, Loops, Conditionals
- Input/Output in Java
- String and StringBuilder
- Static and Final keywords

OOP Concepts

- Class and Object
- Inheritance
- Polymorphism (Overloading & Overriding)
- Encapsulation and Abstraction
- Constructors, this and super keyword
- Access Modifiers

Exception Handling

- try-catch-finally block
- throw vs throws
- Custom Exceptions

Java Collections Framework (JCF)

- List: ArrayList, LinkedList
- Set: HashSet, LinkedHashSet, TreeSet
- Map: HashMap, TreeMap
- Queue: PriorityQueue, LinkedList
- Stack: Stack class, Deque
- Iterator, Enhanced for-loop
- Comparable vs Comparator

Java 8 Features

- Lambda Expressions
- Functional Interface
- Stream API (map, filter, reduce)

- Method References
- Optional class

Multithreading Basics

- Thread, Runnable interface
- Thread methods: `sleep()`, `join()`
- Synchronization and Life Cycle overview

Interview Ready Concepts

- Immutable class
- String pool concept
- Pass-by-value vs reference in Java
- Static block and initialization
- JVM architecture (overview)
- Memory: Heap vs Stack