

Complete Core Java Guide (Beginner to Advanced)

Java Fundamentals

- Introduction to Java, Features, JVM, JRE, JDK
- Program Structure, Packages, Imports
- Data Types, Variables, Type Casting

Operators & Control Statements

- Arithmetic, Logical, Relational, Bitwise Operators
- If, Switch, Loops, Break & Continue

OOPS Concepts

- Class, Object, Encapsulation, Inheritance
- Polymorphism, Abstraction, Interfaces
- Constructors, this, super, static, final

String Handling

- String immutability & String Pool
- StringBuffer vs StringBuilder

Arrays

- Single & Multi-dimensional Arrays
- Arrays vs Collections

Exception Handling

- Checked & Unchecked Exceptions
- try-catch-finally, throw, throws
- Custom Exceptions

Multithreading

- Thread lifecycle
- Thread vs Runnable
- Synchronization, wait/notify

Java I/O

- File Handling
- Streams & Serialization

Collections Framework

- List, Set, Queue, Map
- ArrayList, HashSet, HashMap, TreeMap

- Comparable vs Comparator

Java 8 Features

- Lambda Expressions
- Functional Interfaces
- Stream API
- Optional & Method References

Advanced Java

- JVM Internals & Garbage Collection
- Reflection & Annotations
- Design Patterns & SOLID

Interview Topics

- equals & hashCode
- Deadlock, Volatile
- Fail-fast vs Fail-safe