

Java Programming Syllabus (30 Days)

Phase 1: Java Basics (Days 1-5)

- Day 1: Introduction, Hello World, JVM, JDK, JRE
- Day 2: Variables, Data Types, Type Casting
- Day 3: Operators and Expressions
- Day 4: Input/Output in Java using Scanner and System.in
- Day 5: Control Flow: if, if-else, switch

Phase 2: Loops and Arrays (Days 6-9)

- Day 6: Loops: for, while, do-while
- Day 7: Nested loops and pattern problems
- Day 8: 1D Arrays: Declaration, Traversal, Search
- Day 9: 2D Arrays and matrix problems

Phase 3: Functions and Recursion (Days 10-12)

- Day 10: Methods in Java, return types, arguments
- Day 11: Method Overloading, Scope of variables
- Day 12: Recursion and common recursion problems

Phase 4: Object-Oriented Programming (Days 13-17)

- Day 13: Classes and Objects
- Day 14: Constructors, this keyword
- Day 15: Inheritance and super keyword
- Day 16: Polymorphism (overloading and overriding)
- Day 17: Encapsulation and Abstraction

Phase 5: Strings and StringBuilder (Days 18-19)

- Day 18: String class methods: length, charAt, substring, equals
- Day 19: StringBuilder for efficient string manipulation

Phase 6: ArrayList and Collections (Days 20-21)

- Day 20: ArrayList operations, generics, sorting
- Day 21: Collections framework overview: List, Set, Map

Phase 7: Exception Handling & File I/O (Days 22-24)

- Day 22: Exception Handling: try-catch, throw, throws, finally
- Day 23: File handling using FileReader, FileWriter, Scanner
- Day 24: Practice: read/write text files

Phase 8: Java OOP Project & Practice (Days 25-27)

- Day 25: Mini Project: Student Management System (OOP-based)
- Day 26: Add File Handling to Project
- Day 27: Code cleanup, testing, error handling

Phase 9: Advanced Topics Overview (Days 28-30)

- Day 28: Introduction to Java Swing (GUI basics)
- Day 29: Multithreading basics
- Day 30: Final project practice and revision