Java Training – 12 Week Roadmap

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1	Java Overview & Setup	Understand JVM, JDK, JRE; install Java; write & run first program; learn about compilation vs interpretation; variables, constants, comments
2	Data Types & Operators	Primitive & non-primitive types, type casting, arithmetic/logical/bitwise operators, operator precedence
3	Control Structures	Conditional statements (if-else, switch), loops (for, while, do-while), break/continue, nested structures
4	Arrays & Strings	1D & 2D arrays, array methods, string operations, immutability, StringBuilder/StringBuffer
5	Methods & Object-Oriented Basics	Defining methods, method overloading, classes & objects, constructors, access modifiers
6	Core OOP Concepts	Encapsulation, inheritance, polymorphism, abstraction (interfaces & abstract classes)
7	Error & Exception Handling	Types of exceptions, try-catch-finally, throw & throws, custom exceptions, best practices
8	Collections & Generics	List, Set, Map, Queue; ArrayList, LinkedList, HashMap, HashSet, Stack; generics and type safety
9	Input/Output & Serialization	File handling, reading & writing files, buffered streams, serialization & deserialization
10	Multithreading & Concurrency	Thread lifecycle, creating threads, synchronization, executor framework, concurrency utilities
11	Database Connectivity (JDBC)	Connecting to databases, executing queries, prepared statements, CRUD operations with JDBC
12	Spring Boot with REST	Spring Boot setup, RESTful APIs, annotations, building CRUD with JPA/Hibernate, testing APIs with Postman