Java Fundamentals

Course Outline & Resources

Overview

This concise course establishes a solid foundation in Java Standard Edition by covering language syntax, object■oriented principles and essential APIs. Upon completion you will be able to write, compile and run Java programs, apply core OOP concepts and work confidently with collections, exceptions and I/O.

Key Topics

- Java toolchain: JDK, compiler, IDEs, build tools
- Language basics & control flow
- Core data structures & arrays
- Object■oriented programming (classes, inheritance, interfaces)
- Generics & collections framework
- Exception handling & debugging
- File I/O & basic serialization
- Unit testing with JUnit

Suggested 8■Week Schedule

Week 1■2 : Language basics, variables, methods
Week 3■4 : OOP principles, packages, visibility
Week 5■6 : Collections, generics, streams intro
Week 7 : Exceptions, logging, debugging
Week 8 : Mini■project & assessment

Recommended Resources

- "Effective Java" – Joshua Bloch
- "Java: The Complete Reference" – H. Schildt
- Oracle Java Tutorials – docs.oracle.com/javase/tutorial
- JetBrains Academy Java Track – jetbrains.com/academy