

CORE JAVA syllabus for BCA / B.Tech / MCA Students - 40 hrs.

- What is Java, Java & JVM, JVM Architecture, OOPs, Class & object, Basics for Java Programming, Command line arguments, Data types in Java, Type Casting, Runtime Inputs in Java, Date & Calendar class.
- Looping(for / while / do while / for each / Loop Label) & Conditions with interview related programs, varArgs, Boxing and Unboxing.
- Constructor & Factory Methods, object cloning, object & Instance, this operator, Inheritance, Annotations.
- super, static Block & Initialized block, Constructor chaining with this & super, final keyword, Inner classes, Local Inner classes, Anonymous classes, static & static import, packages & own package,
- Exceptions, Checked & Unchecked Exception, Exception Handling & Own Exception classes, try with resources, interview related Questions on exception handling.
- Abstract classes & Interfaces, Marker Interfaces, Functional Interfaces, Java Lambda Expressions, method references, Interview Questions on Abstract class & Interfaces, Coupling(Loosely-coupled & Tightly Coupled), Abstract design pattern with example, String Handling (diff b/w String, StringBuffer, StringBuilder class), Reflection API & how to use it.
- Collection Framework(Imp. for Interview & Project design), Generics, Own Generic class, Java Collection Framework Architecture, Own Collection design - LinkedList, Vector And ArrayList - perform all operation insertion / deletion / traversing, Collection Framework / API, Generics, Diamond Expression.
- Java Enum, Aggregation, forEach() method.
- Lambda Expression, Java Method References, :: (scope Resolution) operator, -> (arrow operator), Java StringJoiner, Java Optional Class, Other core concepts.
- File Handling in Java.
- Multi Threading, Thread, join(), synchronization, Daemon Thread.
- AWT & Swing - UI Components & Layouts + Event Handling + form Designing in both for Interlinking. form design with Databases using JDBC (JDBC Basics with MySQL & Oracle).
- Minor project using Swing, JDBC & MySQL Database.
- diff b/w - JDK1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.11 upto 1.20