Core Java Syllabus

Basics of Java

✔ Java - What, Where and Why?
✔ History and Features of Java
✔ Internals of Java Program
✔ Difference between JDK,JRE and JVM
✔ Internal Details of JVM
✔ Variable and Data Type
✔ Unicode System
✔ Naming Convention

OOPS Concepts

✔ Advantage of OOPs
✔ Object and Class
✔ Method Overloading
✔ Constructor
✔ static variable, method and block
✔ this keyword
✔ Inheritance (IS-A)
✔ Method Overriding
✔ Covariant Return Type
✔ super keyword
✔ Instance Initializer block
✔ final keyword
✔ Runtime Polymorphism
✔ static and Dynamic binding
✔ Abstract class and Interface
✔ Package and Access Modifiers
✔ Encapsulation
✔ Object class
✔ Object Cloning

✔ Java Array

String Handling

✔ String : What and Why?
✔ Immutable String
✔ String Comparison
✔ String Concatenation
✔ Substring
✔ Methods of String class
✔ StringBuffer class
✔ StringBuilder class
✔ Creating Immutable class
✔ toString method

Exception Handling

✔ Exception Handling : What and Why?
✔ try and catch block
✔ Multiple catch block
✔ Nested try
✔ finally block
✔ throw keyword
✔ throws keyword
✔ Exception Handling with Method Overriding
✔ Custom Exception

Nested Classes

✔ Nested Class : What and Why?
✔ Member Inner class
✔ Annonymous Inner class
✔ Local Inner class

✔ static nested class
✔ Nested Interface

Multithreading

✔ Multithreading : What and Why?
✔ Life Cycle of a Thread
✔ Creating Thread
✔ Thread Schedular
✔ Sleeping a thread
✔ Joining a thread
✔ Thread Priority
✔ Thread Pooling
✔ Performing multiple task by multiple thread
✔ Garbage Collection
✔ Runnable class

Synchronization

✔ Synchronization : What and Why?
✔ synchronized method
✔ synchronized block
✔ static synchronization
✔ Deadlock

Input and output

✔ FileOutputStream & FileInputStream
✔ ByteArrayOutputStream
✔ SequenceInputStream
✔ BufferedOutputStream & BufferedInputStream
✔ FileWriter & FileReader
✔ CharArrayWriter
✔ Input from keyboard by InputStreamReader

- ✔ Input from keyboard by Console
- ✔ Input from keyboard by Scanner
- ✔ PrintStream class
- ✔ PrintWriter class
- ✔ Reading and Writing data simultaneously
- ✔ DataInputStream and DataOutputStream

Applet & Graphics

- ✔ Life Cycle of Applet
- ✔ Graphics in Applet
- ✔ Displaying image in Applet
- ✔ Animation in Applet
- ✔ EventHandling in Applet
- ✔ JApplet class
- ✔ Painting in Applet
- ✔ Parameter in Applet
- ✔ Applet Communication