

CORE JAVA

1. Getting Started with Java SE

- What is Java?
- History of Java
- How to get Java
- A first java program
- Compiling and interpreting application
- The JDK Directory Structure
- Inside JVM

2. Datatypes and Variables

- Primitive Datatypes
- Declarations
- Variable Names
- Numeric Literals
- Character Literals
- String
- String Literals
- Arrays
- Non-Primitive Datatypes
- The Dot Operator

3. Operators and Expressions

- Expressions
- Assignment Operator
- Arithmetic Operator
- Relational Operators
- Logical Operators
- Increment and Decrement Operators
- Operate-Assign Operators(+=,etc.)
- The Conditional Operator
- Operator Precedence
- Implicit Type Conversions
- The Cast Operator

4. Control Flow

- Statements
- Conditional(if) Statements
- Adding an else if
- Conditional (switch) Statements
- While and do-while Loops
- For Loops
- A For Loop Diagram
- Enhanced For Loop
- The continue Statement
- The Break Statement

5.Methods

- Methods
- Calling Methods
- Defining Methods
- Method Parameters
- Scope
- Variable argument parameters methods

6.Object-Oriented Programming

- Introduction to Object-Oriented Programming
- Classes and Objects
- Constructors
- Fields and Methods
- Encapsulation
- Interfaces
- Access Control
- Inheritance
- Polymorphism
- Best Practices

7.Inheritance in Java

- Inheritance
- Inheritance in Java
- Casting
- Method Overriding
- Polymorphism
- Super
- The Object Class

8.Inner Classes and Packages

- Inner Classes Concept
- Anonymous Inner Class
- Static inner class
- Packages
- The import Statement
- Static Imports
- CLASSPATH and Import
- Defining Packages
- Package Scope

9.Exception Handling

- Exception Overview
- Catching Exceptions
- The Finally Block
- Exception Methods
- Declaring Exceptions
- Defining and Throwing Exceptions
- Errors and RuntimeExceptions

10.Input/Output Streams

- Overview of Streams
- Bytes vs. Characters
- Converting Byte Streams to Character Streams
- File Object
- Binary Input and Output
- Print Writer Class
- Reading and Writing Objects
- Basic and Filtered Streams
- File Class
- Scanner Class

11.MultiThreading in Java

- Non-Threaded Applications
- Threaded Applications
- Creating Threads
- Thread States
- Runnable Threads
- Coordinating Threads
- Interrupting Threads
- Runnable Interface
- Synchronizing Threads

- Interthread Communication
- ThreadGroups
- Advanced Locking Concepts

12.Collection Framework and Generics

- The Collection Framework
- The Set Interface
- Set Implementation Classes
- The List Interface
- List Implementation Classes
- The Map Interface
- Map Implementation Classes
- Sorting with Comparator
- Sorting Lists and Arrays
- Collections Utility Methods

13.Internalization and Property class

- Internalizing application
- Date Time formatter
- Number Formatter
- Properties class

14.Introduction to standalone application and Applet

- Introduction to AWT
- Introduction to Swing

15.Reflection API in Java

16.Socket Programming and RMI

17.Serialization Cloning and Annotation

18.Garbage Collection in Java

19.Introduction to JDBC and SQL

- The JDBC Connectivity Model
- JDBC Driver types
- Loading drivers and Connecting to DB
- Creating a SQL Query
- Getting the Results
- Updating Database Data
- Database Metadata
- Finishing Up



20. Introduction to Eclipse and Ant