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Learnomate Technologies is the Information technology company which provide training on different IT Technologies.

Out of that **Java Devepoler** is the one of the fastest growing technology.

Welcome to the Java Developer Course Training! This course is designed to equip you with the skills and knowledge required to become a proficient Java developer. Whether you're a beginner looking to start your journey in programming or an experienced developer aiming to enhance your Java expertise, this course offers a comprehensive curriculum to meet your needs.



Java is one of the most widely used programming languages in the world, known for its portability, scalability, and versatility. It powers a vast range of applications, from mobile apps to large-scale enterprise systems. Learning Java opens doors to numerous career opportunities in various industries, including finance, healthcare, and technology.



SYLLABUS KEY POINTS

Chapter-1

- Introduction with Java
- History of Java
- Features of Java
- Java v/s C 5) Java v/s C++
- **OOPs Concepts**
 - i) Object
 - ii) Class
 - iii) Abstraction
 - (a) Abstract Class
 - (b) Interfaces
 - iv) Encapsulation
 - v) Inheritance
 - (a) Single Level Inheritance
 - (b) Multi-Level Inheritance
 - (c) Hierarchical Inheritance
 - (d) Hybrid Inheritance
 - vi) Polymorphism
 - (a) Compile Time Polymorphism (Method Overloading)
 - (b) Runtime Polymorphism (Method Overriding)
- **Java Environment (Detailed intro about all)**
 - i) JDK (configuration of JAVA)
 - (a) javac
 - (b) javap
 - (c) java
 - (d) javadoc
 - (e) javah
 - (f) appletviewer
 - (g) jdb
 - ii) JVM
 - iii) JRE



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- **Installation of JDK & JRE (Installation of JDK, which now consists JRE internally)**

Chapter-2

- First Program
- Compilation and Execution with each steps explanation
- Class declaration
- **Main Line**
 - i) psvm (main method)
 - ii) output line (SYSOUT)
- **Java program structure**
 - i) documentation
 - ii) package
 - iii) import
 - iv) interface statement
 - v) class definition
 - vi) MAIN method class
- **Java Tokens**
 - i) Reserved keywords
 - ii) Identifiers
 - iii) Literals
 - iv) Operators
 - v) Separators
- **Java Statements**
 - i) Expression Statements
 - (a) Assignment
 - (b) Increment/decrement
 - (c) Method call
 - (d) Allocation
 - ii) Labelled Statements
 - iii) Control Statements
 - (a) Selection- if, else-if, Switch
 - (b) Iteration - while, do-while, for
 - (c) Jump Statement -break, continue, return



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- iv) Synchronization Statements
- v) Guarding Statements
 - Java Program with command line arguments
 - Use of print() and println() methods

Chapter- 3

- **Constants**
 - i) Numeric - Integer, Real
 - ii) Character- Character constants, String constants, Backslash character
- **Data types**
 - i) Primitives- Numeric, Non-Numeric
 - ii) Non-Primitives- Classes, Arrays, Interfaces
- **Wrapper Classes**
- **Variables**
- **Type casting-** Boxing, unboxing

Chapter- 4

- **Operators**
 - i) Arithmetic
 - ii) Relational
 - iii) Logical
 - iv) Assignment
 - v) Increment/decrement
 - vi) Conditional
 - vii) Bitwise
 - viii) Special
- **Operator precedence and associativity**
- **Mathematical functions**



- **Decision Making Statements with branching**

- Simple If
- Nested If
- Else-if
- Else-if ladder
- Switch
- Conditional operator

- **Decision Making Statements with looping**

- while statement
- do-while statement
- for statement
- nested for
- for each statement

- **Jumps in Loops**

- break
- continue

- **Labelled Loops**

Chapter- 5

- **Access Specifiers**

- public
- private
- protected
- default

- Packages
- Field Declaration
- Method declaration
- Object creation
- Accessing a class member
- Constructors
- Interface



- **Inner Class**

- i) Introduction
- ii) Member Inner Class
- iii) Static Inner Class
- iv) Local Inner Class
- v) Anonymous Inner Class

- Abstract Class
- Nesting of methods
- Methods with VARARGS



Chapter- 6

- **Inheritance**

- i) Defining a subclass
- ii) Subclass's constructor
- iii) Single Inheritance
- iv) Multilevel inheritance
- v) Hierarchical inheritance
- vi) Hybrid Inheritance
- vii) Multiple Inheritance

- **Polymorphism**

- i) Method Overloading
- ii) Method Overriding

- **Abstraction**

- i) Using Abstract class
- ii) Using Interface

- **Encapsulation**

- **Static Import**
- **Static keyword**
- **Final keyword**
- **Super keyword**
- **This keyword**



Chapter- 7

Arrays

- a. 1-D Array
- b. 2-D Array
- c. Multidimensional Array

- **Declaration of Array**
- **Instantiation and Initialization of Array**
- **Cloning an Array**
- **Vector**
- **Enums**

Chapter- 8

- **String**
- **String buffer**
- **String builder**
- **File I/O**

- i) Stream
- ii) File Reader / Writer
- iii) File Handling
- iv) Input from console

Chapter- 9

- **Errors**
- **Exceptions**

- i) Checked
- ii) Unchecked
- iii) User defined

- **Exception handling**

- i) Try with catch
- ii) Try with multiple catch
- iii) Try with catch and finally
- iv) Try with finally
- v) Try with resource
- vi) Using throws keyword



- **Difference between throw and throws**
- **Difference between error and exception**

Chapter- 10

- **Collection Framework**

- Introduction
- Util Package interfaces, List, Set, Map
- List Interface & Its Classes
- Set Interface & Its Classes
- Map Interface & Its Classes
- Legacy Classes (a) Hash Table

- **Generics In Java**

- Advantages
- Example of generic programming
- Generic Class
- Generic Method
- Wildcard in Java Generics
- Upper Bounded Wildcards
- Unbounded Wildcards
- Lower Bounded Wildcards

Chapter- 11

- **Multithreading**

- Introduction
- Life cycle of thread
- Thread creation with Thread class
- Thread creation with Runnable Interface
- Stopping and blocking a thread
- Thread priority
- Thread exceptions
- Use of Callable Interface



- **Synchronization**

- Inter-thread communication
- Deadlock
- Examples

- **Transient Keyword**

- **Serialization**

- Object Input/Output Stream
- Serialization with Inheritance (IS-A Relationship)
- Serialization with Aggregation (HAS-A Relationship)
- Serialization with Static data member
- Serialization with Array or Collection
- Externalizable in Java

- **Serial version UID**

- **Volatile Keyword**



Chapter- 12

- **Java JDBC**

- **JDBC Drivers**

- JDBC-ODBC bridge driver
- Native-API driver
- Network Protocol driver
- Thin driver

- **DB Connectivity Steps**

- **Different Types of Statements**

- Statement
- Prepared Statement
- Callable Statement

- **ResultSet**

- ResultSet Meta Data



- **Transaction Management**

- i) Introduction
- ii) ACID property
- iii) Advantage and Disadvantage
- iv) Examples

Chapter- 13

- **Garbage Collection**
 - **Memory**
 - **Comparable Interface**
 - **Comparator Interface**
 - **Annotations**
 - **Java**
 - **Features** -Lambda Expression, Stream API, Marker Interface, Optional Class, Method Referencing
 - **Reflection**
 - **Immutable Class**
 - **Design Patterns**- Creational Pattern, Structural Patter, Behavioural Pattern, J2EE Pattern
-
- **Frameworks**
 - a. Spring MVC
 - b. Spring Boot
-
- **Web-services**
 - a. SOAP
 - b. REST



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TRAINING HIGHLIGHTS

- **Recording Access** shared to students on Learnomate App
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- **Placement assistance/Job requirement notification support/HR contacts**
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