

Aggarwal College Ballabgarh

A Post Graduate Co-educational College
(Affiliated to M. D. University, Rohtak)
NAAC Accredited 'A' Grade (CGPA: 3.40)

Certificate Course in JAVA 7

Objective

The objective of this course is to familiarize students with the knowledge of object oriented programming language using Java

Benefit

Create object-oriented applications using Java. The Programming in Java course is mapped with Oracle Certified Professional, Java SE 7

Duration

77 hours

Examination

Paper	Title of the paper
Paper-1	Fundamental of Java
Paper-2	Data Structure with Java and Concurrency API

Course contents & Syllabus

Fundamental of Java – Paper 1

- Get overview of Java
 - Java Programs Are Platform-Independent
 - Java SE Platform Versions
 - The Java Community, Open jdk
 - Class Structure , A Simple Class , Code Blocks , Primitive Data Types
 - Java SE 7 Numeric and Binary Literals
 - Strings and String operation , if-else
- Implement Operators
 - Logical Operators , Relational Operator, Arithmetic Operator
- Work with Conditional and Loop Constructs
 - Loop , for loop , while , do- while
 - Arrays and for-each Loop
 - String switch Statement
 - Class and Object, Method, Constructor , Creating an Instance of an Object
 - package Statement , import Statement
- Work with Arrays, Enums, and Strings
- Implement Inheritance and Polymorphism
 - Define Inheritance and Types of Inheritance
 - Abstract Class and Interface
 - Compile-time and Run-time Polymorphism
- Handle Errors and Events
 - Exception Categories , Exception Handling

- The try-catch Statement , finally clause
- Declaring and Throwing Exceptions
- Layout Manager and Event Handling
- Work with Streams
 - Data Within Streams
 - Byte Stream InputStream and OutputStream Methods
 - Character StreamReader and StreamWriterMethods
 - Processing Streams
 - Writing to Standard Output , Reading from Standard Input , Channel IO
 - Persistence , Serialization and Object Graphs , Transient Fields and Objects
- Work with NIO Classes and Interfaces
 - New File I/O API (NIO.2) , Limitations of java.io.File , File Systems, Paths, Files
 - Relative Path Versus Absolute Path , Java NIO.2 Concepts
 - Path Interface
 - Removing Redundancies from a Path
 - Creating a Subpath , Joining Two Paths , Creating a Path Between Two Paths

Data Structure with Java and Concurrency API – Paper 2

- Get Introduced to JDBC
 - Using a Vendor's Driver Class
 - Create Applications Using Advanced Features of JDBC
 - Using a ResultSet Object , Controlling ResultSet Fetch Size
 - ResultSetMetaData
 - Using PreparedStatement , Using CallableStatement
- Apply Inner Classes and Type Casting
 - Anonymous Inner Classes
 - Nested Classes
 - Autoboxing and Autounboxing
- Work with Regular Expression and Localization
 - Pattern and Matcher
 - Character Classes , Predefined Character Classes
 - Quantifiers , Greediness , Boundary Matcher
 - Why Localize?
 - Locale , Resource Bundle , Resource Bundle File , Date and Currency
- Work with Generics
 - Simple Cache Class Without Generics
 - Generic Cache Class , Generics in Action , Generics with Type Inference Diamond
- Work with Collections
 - Collection Types , List Interface
 - ArrayList Implementation Class , ArrayList Without Generics
 - Set Interface and classes
 - Map Interface and classes
- Work with Threads
 - The Thread Class , Extending Thread , Starting a Thread
 - Implementing and executing Runnable
- Implement Thread Synchronization and Concurrency
 - The java.util.concurrent Package
 - The java.util.concurrent.atomic Package
 - The java.util.concurrent.locks Package

Certification

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