Nehra Classes

Igniting The Minds

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Basics of Java

√ What is Java?

√ History and Features of Java

√ Hello Java Program

√ JDK, JRE, and JVM (Java Virtual Machine)

√ JVM Memory Management

√ Internal details of JVM

√ Unicode System, Operators, Keywords, and Control Statements like if-else, switch, For loop, while loop, etc.

Data types in Java

√ Data types in Java

√ Primitive data types

√ Non-primitive data types

√ Memory allocation of primitive and non-primitive data types, etc.

Variables, Constants, and Literals

√ Variable declaration & initialization

√ Naming convention

√ Types of variables such as local variables, instance variables, and static variables

√ Scope and memory allocation of variables.

Methods in Java

√ Methods in Java

√ Use of method in Java

√ Method declaration, method signature

√ Types of methods in Java: predefined method, user-defined methods: instance method, static method

√ Calling of method

√ Java main method

√ Return type in Java.

Class, Object, and Types of classes

√ Naming convention of Java

√ Classes, Objects, and Features. It explains how to declare a class, how to create an object in Java.

√ Object declaration and initialization

√ Life cycle of an object

√ Anonymous object in Java

Constructor in Java

√ What is Constructor in Java?
√ Types of constructors: Default and Parameterized constructors

√ Java constructor overloading

√ Constructor chaining in java

√ Copy constructor in Java

Modifiers in Java

√ What is Access modifier and Non-access modifier in Java?
√ Types of access modifiers like private, default, protected, and public

√ Types of Non-access modifiers

Static Keyword

√ What is Static keyword?

√ Static variable
√ Static method

√ Static block, Instance block

√ Static Nested Class in Java

√ Difference between static variable and instance variable, static method and instance method, static block, and instance block.

Final Keyword

√ Final keyword
√ Final variable

√ Final method

√ Final class.

Inner Class in Java

√ What is Inner class in Java?, Properties of inner class, Instantiating inner class.
√ Types of inner class in Java: Normal inner class, Method local inner class, Anonymous inner class, and Static nested class.

Super and this Keyword

√ Super keyword
√ Calling of superclass instance variable

√ Superclass constructor

√ Superclass method.

The second section deals with

√ This keyword

√ Calling of current class constructor, and method.

OOPs concepts

In this chapter, you will learn the most important topic Object-oriented programming system (OOPs). In the OOPs concept, you will learn class, object, encapsulation, inheritance, polymorphism, and abstraction. All topics are very important for interview purposes.

Garbage Collection

Input Output Stream

√ FileOutputStream, FileInputStream

√ BufferedOutputStream, BufferedInputStream

√ SequenceInputStream

√ ByteArrayOutputStream, ByteArrayInputStream

√ DataOutputStream, DataInputStream

√ Java FilterOutputStream, Java FilterInputStream

√ Java ObjectStream, Java ObjectStreamField

√ Console

√ FilePermissionWriter, Reader, FileWriter, FileReader

√ BufferedWriter, BufferedReader

√ CharArrayReader, CharArrayWriter

√ PrintStream, PrintWriter

√ OutputStreamWriter, InputStreamReader

√ PushbackInputStream, PushbackReader

√ StringWriter, StringReader

√ PipedWriter, PipedReader

√ FilterWriter, FilterReader, File FileDescriptor, RandomAccessFile, and java.util.Scanner.

Collections Framework

√ What is Collections Framework?
√ List, Set, SortedSet, Queue, Deque, Map, Iterator, ListIterator, and Enumeration.

√ ArrayList, LinkedList, HashSet, LinkedHashSet, TreeSet, ArrayDeque, PriorityDeque, EnumSet, AbstractCollection, AbstractList, AbstractQueue, AbstractSet, and AbstractSequentialList.

√ Map, Map Entry, SortedMap, and NavigableMap

√ HashMap, LinkedHashMap, TreeMap, IdentityHashMap, WeakHashMap, and EnumMap.

√ Comparator, RandomAccess interfaces as well as Observable class.

Exception Handling in Java

√ Exception Handling in Java
√ Try-catch block

√ Multiple Catch Block

√ Nested try block

√ Finally block

√ Throw Keyword

√ Throws Keyword

√ Throw vs Throws, Final vs Finally vs Finalize

√ Exception Handling with Method Overriding Java Custom Exceptions

Java Annotations

This chapter deals with Java annotations, Built-In Java annotations like @Override, @SuppressWarnings, @Deprecated, @Target, @Retention, @Inherited, @Documented, Java custom annotations, and types of annotations.

Reflection in Java

√ Reflection API

√ NewInstance() & Determining the class object

√ Javap tool, Creating javap tool

√ Creating applet viewer

√ Accessing private method from outside the class

Java Array

This chapter deals with

√ Java Array

√ Types of array: single dimensional array, multidimensional array, declaration, instantiation, and initialization of Java array

√ Passing array to a method

√ Anonymous array in Java

√ Cloning an array in Java

Java Thread

√ Java multithreading

√ Multithreading life cycle of a thread creating

√ Thread scheduler

√ Sleeping a thread, Start a thread twice

√ Calling run() method

√ Joining a thread

√ Naming a thread

√ Thread priority,

√ Daemon thread

√ Thread pool

√ Thread group

√ Shutdownhook

√ Java Synchronization: synchronized method, synchronized block, static synchronization

√ Deadlock

√ Inter-thread Communication

√ Interrupting Thread

As with all certification exams, configurations must persist after reboot without intervention.