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1. Basics of Java
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Chapter 1 contains the basic introduction to the Java language such as

√ What is Java?

√ History and Features of Java

√ C++ vs Java

√ Hello Java Program

√ Internal How to set the path?

√ 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.

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2. Class, Object, and Types of classes
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Chapter 2 deals with the most important and core concepts of Java. They are:

√ 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

Class and Objects in Java with Realtime Example

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3. Packages in Java
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Chapter 3 deals with Packages in Java. Under this chapter, we will learn the following topics.

√ How to declare package in a company project

√ Package naming conventions

√ Sub packages

√ Types of packages such as user-defined packages, built-in packages

√ Importing packages in Java

Packages in Java with Example Programs

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4. Data types in Java
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This chapter deals with the following topics in Java.

√ Data types in Java

√ Primitive data types

√ Non-primitive data types

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

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5. Variables, Constants, and Literals
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Chapter 5 discusses three topic variables, constants, and literals. You will learn the following subtopics in this chapter.

√ Variable declaration & initialization

√ Naming convention

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

√ Scope and memory allocation of variables.

Variables in Java | Types of Variables

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6. Methods in Java
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√ 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.

Java Methods | Declaration & Method Signature

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7. Constructor in Java
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In this chapter, you will familiar with topics like:

√ What is Constructor in Java?

√ Types of constructors: Default and Parameterized constructors

√ Java constructor overloading

√ Constructor chaining in java

√ Copy constructor in Java

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8. Modifiers in Java
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This chapter deals with topics like

√ 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 like abstract, final, native, static, Strictfp, synchronized modifier, transient, volatile.

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9. Static Keyword
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This chapter deals with the following important topics.

√ 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.

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10. Final Keyword
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Under this chapter, you will learn three important topics:

√ Final keyword

√ Final variable

√ Final method

√ Final class.

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11. Inner Class in Java
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This chapter deals with the following topics. They are:

√ 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.

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12. Super and this Keyword
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This chapter can be partitioned into two sections: Super and This keyword. The first section discusses with

√ 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.

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13. OOPs concepts
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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.

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14. Encapsulation
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√ Encapsulation in Java

√ How to achieve Encapsulation

√ Data hiding

√ Tightly encapsulated class

√ Getter and setter method in Java

√ Naming convention of getter and setter method

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15. Inheritance
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√ Inheritance in Java

√ Is-A Relationship

√ Aggregation and Composition(HAS-A)

√ Types of inheritance: Single level, Multilevel, Hierarchical, Multiple, and Hybrid inheritance.

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16. Polymorphism
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√ Polymorphism in Java,

√ Types of polymorphism: Compile-time polymorphism and Run-time polymorphism

√ Static and Dynamic Binding

√ Method overloading

√ Method overriding

√ Rules of method overloading and method overriding, various example programs related to rules of overloading and overriding.

√ Covariant Return type

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17. Abstraction
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√ Abstraction in Java

√ Abstract class

√ Abstract method

√ Interface in Java

√ Nested interface, rules, and example programs.

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18. Garbage Collection
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19. Input Output Stream

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√ 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.

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20. Collections Framework
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√ 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.

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21. Serialization
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22. Exception Handling in Java
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√ 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

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23. Java Annotations
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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.

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24. Reflection in Java
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√ Reflection API

√ NewInstance() & Determining the class object

√ Javap tool, Creating javap tool

√ Creating applet viewer

√ Accessing private method from outside the class

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25. Java Array
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√ 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

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26. String, String Buffer, String Builder
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√ String,

√ Immutable String

√ String Comparision, String concatenation

√ Substring

√ StringBuffer class

√ StringBuilder class

√ toString method

√ StringTokenizer class

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27. Java Thread
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√ 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

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28. JDBC

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This chapter deals with

√ JDBC Drivers

√ Steps to connect to Database

√ Connectivity with Oracle

√ Connectivity with MySQL

√ Connectivity with Access without DSN

√ DriverManager

√ Types of JDBC statements: Statement, Prepared statement, Callable statement

√ Database Metadata, Resultset Metadata

√ ResultSet, types of ResultSet,

√ Storing image, Retrieving image

√ Storing file, Retrieving file, Stored procedures, and functions

√ Transaction Management

√ Batch Processing

√ JDBC New Features, Mini Project, and interview questions.

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29. Agile
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In this chapter, you will familiar with

√ Agile model

√ Advantages, and Disadvantages of Agile model

√ Agile versus Waterfall method

√ Important terminology: Scrum, Scrum Master, Flow of Agile Implementation, Sprint, and Burn down Charts.

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30. Design Pattern
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In design pattern chapter, you will learn

√ Singleton Object

√ Singleton design pattern with Serialization

√ Factory Pattern

√ Abstract Factory.