COURSE NAME	SUB TOPICS	LINKS	SCHEDULE (HOURS)
Importance of Java	*Setting the Context of Java training*	The Importance of Java in Today's World (allaboutweb.biz)	1
Imperative vs Declarative Programming	*Why and where to use?*	Difference Between Imperative and Declarative Programming - GeeksforGeeks	1
Comparison with C++	*Portability if JAVA*	C++ vs Java - Javatpoint	1
Setting Up Java Workspace in Windows	*Setting up JAVA_HOME*	Setting the JAVA_HOME Variable in Windows | Confluence Data Center and Server 7.12 | Atlassian Documentation	1
JDK Directory Structure		Spring Boot 2.0 — Project Structure and Best Practices (Part 2) | by Arpit Khandelwal | The Resonant Web | Medium	1
Setting up Eclipse Workspace and sample Java Program		How to Setup Eclipse IDE on Windows For Java Development + install Java JDK - YouTube	1
Debugging a Program in ECLIPSE	*How to Debug and correct a programming error*	Debugging the Eclipse IDE for Java Developers | The Eclipse Foundation	1
JDK /JRE/JVM Concepts	*difference between 3*	JDK vs JRE vs JVM: Key Differences (guru99.com)	1
OOPS CONCEPTS	*ABSTRACTIONS with EXAMPLES*	What Are OOP Concepts in Java? The Four Main OOP Concepts in Java, How They Work, Examples, and More – Stackify	1
	POLYMORPHISM WITH EXAMPLES		1
	INHERITANCE WITH EXAMPLES (REAL WORKLD SCENARIOS)		1
	ENCAPSULATION WITH EXAMPLES (REAL WORKLD SCENARIOS)		1
Access Modifers in Java	*What are access modifiers?*	Access modifiers in java - Javatpoint	1
	Default		
	Protected		
	Private		
	Public		

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Data types and Operators	Primitive Datatypes, Declarations, Ranges	Data Types, Input and Operators in Java (theoryofprogramming.com)	8
	Variable Names Conventions	Variables (The Java™ Tutorials > Learning the Java Language > Language Basics) (oracle.com)	
	Numeric Literals, Character Literals	Literals in Java - GeeksforGeeks	
	String Literals	Java String - javatpoint	
	Arrays(One dimensional; two- dimensional)	Difference Between one-dimensional and two-dimensional array - GeeksforGeeks	
	Array of Object References	How to Create Array of Objects in Java? - GeeksforGeeks	
	Accessing arrays, manipulating arrays	Arrays (The Java™ Tutorials > Learning the Java Language > Language Basics) (oracle.com)	
	Enumerated Data Types	Enum Types (The Java™ Tutorials > Learning the Java Language > Classes and Objects) (oracle.com)	
	Primitive/ Non-Primitive Datatypes	Data Types in Java	Primitive and Non-Primitive Data Types	Edureka	
	Defining a class, variable and method in Java	Java Class, methods, instance variables - w3resource	
	Method Signature; method calls	Methods in Java - GeeksforGeeks	
	Expressions in Java; introduction to various operators	Expressions and Operators	The ABCs of Java	InformIT	
	Assignment /Arithmatic/Relational Operator	Assignment, Arithmetic, and Unary Operators (The Java™ Tutorials > Learning the Java Language > Language Basics) (oracle.com)	
	Logical Operators(with Examples)	Java Operators: Arithmetic, Relational, Logical and more (programiz.com)	
	Conditional Operators	Conditional Operator in Java - Javatpoint	
	Operator Precedence	Java Operator Precedence (programiz.com)	
	Implicit Type Conversions(with Examples)	Type conversion in Java with Examples - GeeksforGeeks	
	Upcasting and downcasting	Upcasting and Downcasting in Java - Javatpoint	
	Strict typing	Definition for the Term: Strongly Typed (thoughtco.com)	
	Type conversion	Type conversion in Java with Examples - GeeksforGeeks	

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Control Flow statements	*Statements and it's various categories in Java*	Java Control Statements | Control Flow in Java - Javatpoint	4
	if, if-else, if-else-if		
	switch case		
	for statement (both flavours traditional and enhanced for)	Difference between for loop and Enhanced for loop in Java (javarevisited.blogspot.com)	
	while and do-while loops	Java do-while loop with Examples - GeeksforGeeks	
	The continue Statement; labelled continue statement	Break and Continue statement in Java - GeeksforGeeks	
	The break Statement; labelled break statement		
	return statement	return keyword in Java - GeeksforGeeks	
OOPS and its application in Java	*Classes and Objects*	Classes and Objects in Java - GeeksforGeeks	12
	Defining a class;Defining instance variables and methods	Understanding Class Members (The Java™ Tutorials > Learning the Java Language > Classes and Objects) (oracle.com)	
	Creating objects out of a class	How many Ways to Create an Object in Java - Javatpoint	
	Method calls via object references	Passing and Returning Objects in Java - GeeksforGeeks	
	Abstraction	Abstraction in Java - GeeksforGeeks	
	Interfaces and Abstract classes	Abstract Methods and Classes (The Java™ Tutorials > Learning the Java Language > Interfaces and Inheritance) (oracle.com)	
	Abstract and non-abstract methods	Abstract Class in Java - Javatpoint	
	Inheritance	Inheritance in Java - GeeksforGeeks	
	extends and implements keywords in Java	Extends vs Implements in Java - GeeksforGeeks	
	Super class and Sub class	Inheritance in Java - GeeksforGeeks	
	this keyword, super keyword in Java for inheritance	super and this keywords in Java - GeeksforGeeks	

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OOPS and its application in Java	*Concrete classes in Java*	Concrete class in Java - GeeksforGeeks	
	Polymorphism (WITH EXAMPLE)	Polymorphism in Java - GeeksforGeeks	
	Compile time polymorphism -- Overloading of methods	Types of polymorphism in java- Runtime and Compile time polymorphism (beginnersbook.com)	
	Run time polymorphism -- Overriding of methods		
	Method Overriding rules and method overloading rules	Everything About Method Overloading vs. Method Overriding - DZone Java	
	Introduction to Object class and it's methods	Object in Java | Class in Java - javatpoint	
	Encapsulation(RUNNING SAMPLE PROGRAM IN ECLIPSE)	Encapsulation in Java - Javatpoint	
	Protection of data	Access modifiers in java - Javatpoint	
	Java Bean, POJO	POJO vs Java Beans - GeeksforGeeks	
	Getters/Setters	Java Encapsulation and Getters and Setters (w3schools.com)	
	Memory management in Java	Memory Management in Java - Javatpoint	
	Heap (WITH EXAMPLES)	Stack Memory and Heap Space in Java | Baeldung	
	Stack (WITH EXAMPLE)		
Packages	*Need for packages*	What are packages; package declaration in Java	2
	What are packages; package declaration in Java		
	Import statement in Java		
	How do packages resolve name clashes?	Packages In Java - GeeksforGeeks	
Miscellaneous	*Var-Args*	Variable Arguments (Varargs) in Java - GeeksforGeeks	2
	Reference variables, local variables, instance variables	Variables in Java - GeeksforGeeks	
	Memory allocations to variables	How are Java objects stored in memory? - GeeksforGeeks	
	Double equals operator(==) operator for primitives and objects	Difference between equals method and "==" operator in Java - Interview Question (javarevisited.blogspot.com)	
	toString() method on an object	Object toString() Method in Java - GeeksforGeeks	

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Statics	*Static variables and methods*	Static keyword in Java - Javatpoint	2
	Static imports	Static import in Java - GeeksforGeeks	
	Static initialization blocks Vs instance intialization blocks (With Examples)	Static Initialiation Block vs Instance Initialization Block- Decodejava.com	
	Static concept in inheritance	Can We Override Static Method in Java - Javatpoint	
Constructors	*What are Constructors?*	Java Constructors (w3schools.com)	2
	Properties of Constructors	Link	
	Default and Parameterized Constructors(With Examples)		
	Rules for constructor implementation	What are the rules to create a constructor in java? (tutorialspoint.com)	
	Constructor Chaining	Constructor Chaining In Java with Examples - GeeksforGeeks	
	this call;	this keyword in Java - javatpoint	
	super call for constructors	Using the Keyword super (The Java™ Tutorials > Learning the Java Language > Interfaces and Inheritance) (oracle.com)	
	Constructors for Enumerated Data Types	enum in Java - GeeksforGeeks	
	Constructors concept for Abstract classes and interfaces	Abstract Classes in Java - GeeksforGeeks	
Strings in Java	*What are Strings?*	Strings (The Java™ Tutorials > Learning the Java Language > Numbers and Strings) (oracle.com)	2
	String heap memory and Constant Pool memory	Where Does Java's String Constant Pool Live, the Heap or the Stack? | Baeldung	
	Immutability in Strings	Immutable String in Java - javatpoint	
	Method APIs on String; operations on Strings	Java - String Class and its methods explained with examples (beginnersbook.com)	
	Mutability of String Objects - StringBuilder and StringBuffer	String vs StringBuilder vs StringBuffer in Java | Edureka	
	Splitting of Strings and StringTokenizer class	StringTokenizer class in Java with example | Set 1 (Constructors) - GeeksforGeeks	

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Exceptions in Java	*What are Exceptions?*	[Exception Handling in Java | Java Exceptions - javatpoint](#)	3
	Need for exceptions		
	How can Exceptions be coded in Java?		
	API heirarchy for Exceptions		
	Types of Exceptions		
	Keywords in Exception API: try, catch, finally, throw, throws		
	Rules for coding Exceptions		
	Declaring Exceptions		
	Defining and Throwing Exceptions		
	Errors and Runtime Exceptions		
	Custom Exception with Sample Programme	[Java Program to Create custom exception (programiz.com)](#)	
	Assertions		
	What are Assertions?	[Assertions in Java (tutorialspoint.com)](#)	
	Enabling and disabling assertions in development environment		
Collection Framework in Java	*The Collections Framework (WITH EXAMPLES)*	[Java Collections Framework Tutorials (beginnersbook.com)](#)	12
	The Set Interface (WITH EXAMPLES)		
	Set Implementation Classes		
	The List Interface (WITH EXAMPLES)		
	List Implementation Classes (WITH EXAMPLES)		
	The Map Interface (WITH EXAMPLES)		
	Map Implementation Classes (WITH EXAMPLES)		
	Queue Interface (WITH EXAMPLES)	[Queue Interface In Java - GeeksforGeeks](#)	
	Queue Implmentation classes		
	Utility classes (WITH EXAMPLES)	[Java Collections Utility Class - w3resource](#)	
	Sorting collections using utility methods (WITH EXAMPLES & SAMPLE SORTING PROGRAM IN ECLIPSE)		

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Collection Framework in Java	*equals() and hashCode contract in Java collections*	[Java equals() and hashCode() Contracts	Baeldung](#)	
	overriding equals and hashCode methods in Java		
	New Collections added in Java 1.6	[Collections Framework Change Summary for Java SE 6 (oracle.com)](#)	
	Primitive wrapper classes and all its method APIs	[Wrapper class in Java - Javatpoint](#)	
Generics	*Generics for Collections*	[Java Fundamentals Tutorial: Java Collections and Generics (protechtraining.com)](#)	2
	Generics for class		
	Generics for methods		
Input-Output in Java	*What is a stream?*	[Stream In Java - GeeksforGeeks](#)	4
	Overview of Streams		
	Bytes vs. Characters	[Character Stream Vs Byte Stream in Java - GeeksforGeeks](#)	
	Overview of the entire Java IO API	[Overview of Java I/O (javaguides.net)](#)	
	Reading a file; writing to a file using various APIs(WITH EXAMPLES)	[Reading and Writing Files in Java - Stack Abuse](#)	
	Reading User input from console (WITH EXAMPLE)	[Ways to read input from console in Java - GeeksforGeeks](#)	
	PrintWriter Class	[Java PrintWriter class - javatpoint](#)	
Serialization	*Object Serialization*	[Serialization and Deserialization in Java with Example - GeeksforGeeks](#)	4
	Serializable Interface	[Serializable Interface in Java - GeeksforGeeks](#)	
	Serialization API		
	ObjectInputStream and ObjectOutput	[Java IO ObjectInputStream and ObjectOutputStream Examples (codejava.net)](#)	
	Transient Fields	[Transient in Java	What, Why and How it works	Edureka](#)	
	readObject and writeObject		

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Inner Classes	*Inner Classes*	Inner class in java - GeeksforGeeks	3
	Member Classes	Member Classes (Java in a Nutshell) (mik.ua)	
	Local Classes	Local Classes (The Java™ Tutorials > Learning the Java Language > Classes and Objects) (oracle.com)	
	Anonymous Classes	Anonymous Classes (The Java™ Tutorials > Learning the Java Language > Classes and Objects) (oracle.com)	
	Static Nested Classes	Static nested class in Java - javatpoint	
Threads in Java	*Non-Threaded Applications*	Java 101: Understanding Java threads, Part 1: Introducing threads and runnables	InfoWorld	4
	Threaded Applications		
	Process based multitasking Vs Thread based multitasking	Process-based and Thread-based Multitasking - GeeksforGeeks	
	Thread API in Java	Java.lang.Thread class in Java - GeeksforGeeks	
	Creating Threads	Creating a thread in Java - javatpoint	
	States of a Thread	Life cycle of a thread in Java - javatpoint	
	Sychronization for threads; static and non-static synchronized methods; blocks; concept of object and class locks	Synchronization in Java - javatpoint	
	Coordination between threads - wait, notify and notifyAll methods for inter-thread communication	Inter-thread communication in Java - javatpoint	

COURSE NAME	SUB TOPICS	LINKS	SCHEDULE (HOURS)
JDBC	*What is JDBC; introduction*	JDBC Tutorial | What is Java Database Connectivity(JDBC) - javatpoint	4
	JDBC features	JDBC Driver API Version and Features - Know Program	
	JDBC Drivers		
	Writing JDBC code to connect to DB	Java Database Connectivity with MySQL - javatpoint	
	CRUD Operations with JDBC (WITH SAMPLE EXECUTING PROGRAMSIN ECLIPSE)	Java JDBC CRUD Tutorial: SQL Insert, Select, Update, and Delete Examples (codejava.net)	
	Statement types in JDBC	What are the types of statements in JDBC? (tutorialspoint.com)	
	Types of Rowset in JDBC	What is RowSet in Java JDBC? - GeeksforGeeks	
	Result Set in JDBC	JDBC - Result Sets - Tutorialspoint	
JAVA 8 FEATURES		Java 8 Features - javatpoint	4
	LAMBDA EXPRESSION (WITH SAMPLE PROGRAM)	Java Lambda Expressions - javatpoint	
	FUNCTIONAL INTERFACES (WITH SAMPLE PROGRAM)	Functional Interfaces In Java - GeeksforGeeks	
	CONSTRUCTOR AND METHOD REFERENCES (WITH SAMPLE PROGRAM)	Method References in Java with examples - GeeksforGeeks	
STREAMS API	*STREAMS API OVERVIEW*	Stream In Java - GeeksforGeeks	4
	STREAM API OPERATIONS (EXAMPLES)	Java 8 Stream (with Examples) - HowToDoInJava	
	FACTORY METHODS		
	NUMERIC STREAMS		
	TERMINAL OPERATIONS		
	PARALLEL PROCESSING		

COURSE NAME	SUB TOPICS	LINKS	SCHEDULE (HOURS)
OPTIONAL	*Where to Use , How it can prevent Null Pointer Exception(EXAMPLES)*	Java 8 - Optional Class - Tutorialspoint	2
NEW DATE/TIME API	*Where and how to use*	Introduction to the Java 8 Date/Time API | Baeldung	2