

DATA STRUCTURES AND ALGORITHMS , JAVA TIME PERIOD : 2 MONTHS (100 + HOURS)	
Topics	Sub Topics
Data Structures and Algorithms	Functions & Recursion
	Arrays (including basic searching & sorting)
	Strings & Matrices
	Searching & Sorting (Algorithms & Problems)
	Stacks & Queues
	Sets & Maps
	Linked Lists
	Binary Trees (Basics) & Bit Manipulation
Introduction Of Java	What is Java?
	History of Java
	Features of Java
	C++ vs Java
	Hello Java Program
	Program Internal
	How to set path?
	JDK, JRE and JVM
	JVM: Java Virtual Machine
	Java Variables
	Java Data Types
	Unicode System
	Operators
	Keywords
	Control Statements
Java If-else	
Java Switch	
Java For Loop	
Java While Loop	
Java Do While Loop	
Java Break	
Java Continue	
Java Comments	
Java Programs	

Java Object Class	Java OOPs Concepts
	Naming Convention
	Object and Class
	Method
	Constructor
	static keyword
	this keyword
Java Inheritance	Inheritance (IS-A)
	Aggregation (HAS-A)
Java Polymorphism	Method Overloading
	Method Overriding
	Covariant Return Type
	super keyword
	Instance Initializer block
	final keyword
	Runtime Polymorphism
	Dynamic Binding
instance of operator	
Java Abstraction	Abstract class ,Interface, Abstract vs Interface
Java Encapsulation	package , Access Modifiers, Encapsulation
Java Array	Java Array
Java OOPs Concepts	Object class , Object Cloning
	Math class , Wrapper Class
	Java Recursion , Call By Value
	strictfp keyword , Javadoc tool , Command Line Arg
	Object vs Class
	Overloading vs Overriding
Java String	What is String , Immutable String
	String Comparison , String Concatenation , Substring , Methods of String class StringBuffer class
	StringBuilder class
	String vs StringBuffer
	StringBuffer vs Builder
	Creating Immutable class
	toString method

	StringTokenizer class	
	Java String	
	String Handling	
Java String Methods	String charAt() , String compareTo() , String concat() , String contains() ,String endsWith(), String equals()	
	equalsIgnoreCase()	
	String format() , String getBytes() , String getChars()	
	String indexOf() , String intern() , String isEmpty()	
	String join() , String lastIndexOf() , String length()	
	String replace() , String replaceAll()	
	String split() , String startsWith(), String substring()	
	String toCharArray(), String toLowerCase() , String toUpperCase()	
	String trim() , String valueOf()	
	Java Regex	Java Regex API
	Exception Handling	Java Exceptions
Java Try-catch block		
Java Multiple Catch Block		
Java Nested try		
Java Finally Block		
Java Throw Keyword ,Java Exception Propagation, Java Throws Keyword, Java Throw vs Throws		
Final vs Finally vs Finalize, Exception Handling with Method Overriding , Java Custom Exceptions		
Java Inner Class	What is inner class, Member Inner class, Anonymous Inner class, Local Inner class	
	static nested class , Nested Interface	
Java Multithreading	What is Multithreading	
	Life Cycle of a Thread ,How to Create Thread	
	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	
	Shutdown Hook	
	Performing multiple task	

	Garbage Collection	
	Runtime class	
	Multithreading	
Java Synchronization	Synchronization in java	
	synchronized block	
	static synchronization	
	Deadlock in Java	
	Inter-thread Comm	
	Interrupting Thread	
	Reentrant Monitor	
	Java Input/Output	
Java I/O	FileOutputStream	
	FileInputStream	
	BufferedOutputStream	
	BufferedInputStream	
	SequenceInputStream	
	ByteArrayOutputStream, ByteArrayInputStream	
	DataOutputStream, DataInputStream	
	Java FilterOutputStream, Java FilterInputStream	
	Java ObjectOutputStream, Java ObjectStreamField	
	Console, FilePermission	
	Writer, Reader, FileWriter	
	FileReader	
	BufferedWriter, BufferedReader	
	CharArrayReader, CharArrayWriter	
	PrintStream, PrintWriter	
	OutputStreamWriter, InputStreamReader	
	PushbackInputStream, PushbackReader	
	StringWriter, StringReader	
	PipedWriter, PipedReader	
	FilterWriter, FilterReader	
	File, FileDescriptor, RandomAccessFile, java.util.Scanner	
	Java Serialization	Java Serialization
		Java transient keyword
	Networking Concepts, Socket Programming	

Java Networking	URL class , URLConnection class , HttpURLConnection
	InetAddress class , DatagramSocket class
Java AWT & Events	AWT Basics, Event Handling, AWT Button, AWT Label, AWT TextField , AWT TextArea
	AWT Checkbox, AWT CheckboxGroup, AWT ChoiceAWT List, AWT CanvasAWT Scrollbar
	AWT MenuItem & Menu, AWT PopupMenu, AWT Panel, AWT Dialog ,AWT Toolkit
	Java ActionListener, Java MouseListener, MouseMotionListener
	Java ItemListener, Java KeyListener , Java WindowListener
	Java Adapter classes , Close AWT Window
Java Swing	Swing Introduction
	Java JButton
	Java JLabel ,Java JTextField, Java JTextArea
	Java JPasswordField , Java JCheckBox , Java JRadioButton , Java JComboBox ,Java JTable, Java JList
	Java JOptionPane, Java JScrollBar, Java JMenuItem & JMenu, Java JPopupMenu,
	Java JCheckBoxMenuItem, Java JSeparator
	Java JProgressBar, Java JTree, Java JColorChooser, Java JTabbedPane, Java JSlider
	Java JSpinner, Java JDialog, Java JPanel, Java JFileChooser, Java JToggleButton
	Java JToolBar, Java JViewport, Java JFrame, Java JComponent, Java JLayeredPane, Java JDesktopPane
	Java JEditorPane, Java JScrollPane, Java JSplitPane, Java JTextPane, Java JRootPane
	Using ToolTip, Change Title Icon , Executable Jar File, Digital Watch, Graphics in swing,Displaying Image
JavaFX Tutorial	JavaFX Tutorial, Install Java, Install Eclipse
	JavaFX with Eclipse, JavaFX Architecture
	Application Structure , First JavaFX Application
JavaFX Event Handling	JavaFX Event Handling, JavaFX Convenience methods
	JavaFX Event Filters, JavaFX Event Handlers