



Core Java.

1] An Introduction to JAVA.

1.1 object oriented programming Concepts.

1.2 Introduction to JAVA.

1.3 Features of JAVA.

1.4 JAVA Environment:

1.4.1 Structure of Java program.

1.5 Java Development Tools.

1.6 Basic concepts in java.

1.6.1 Comments, Data Types.

1.6.2 Tokens.

1.6.3 variable.

1.7 Control Flow statements.

1.8 Arrays in java.

1.9 Accepting Input (Command line arguments, Buffered Reader, Data Input Stream, Scanner).

2] Objects and classes.

2.1 Defining your own classes.

2.2 Access Specifiers: public, protected, private, default.

2.3 Array of objects.

2.4 Constructors, overloading, Constructors.

2.5 Use of 'this' keyword, static block, static fields and methods.

2.6 predefined classes.

2.6.1 object class, methods (equals(), toString(), hashCode(), getClass()).

2.6.2 string class And StringBuffer class, formatting string data using Format() method.

2.7 Creating, Accessing and using packages.

2.8 Wrapper classes.

3) Inheritance and Interface.

- 3.1 Inheritance basic (extends keyword) and types of inheritances.
- 3.2 superclass, subclass and use of super keyword.
- 3.3 method overriding and runtime polymorphism.
- 3.4 Use of final keyword related to method and class.
- 3.5 use of abstract class and abstract methods.
- 3.6 Defining and Implementing interfaces.
- 3.7 Runtime polymorphism using interface.
- 3.8 Functional Interface and marker Interface.
- 3.8 Adapters and Anonymous Inner Class.

4) Exception and File handling.

- 4.1 Dealing with errors.
- 4.2 Exception class.
 - 4.2.1 checked and unchecked exception.
 - 4.2.2 Logger class.
 - 4.2.3 Catching Exceptions.
 - 4.2.4 multiple catch block.
 - 4.2.5 nested try block.
 - 4.2.6 creating user defined exception.
- 4.3 Introduction to files and streams.
 - 4.3.1 Input-output stream: FileInputStream / output stream, Buffered Input/output stream.
 - 4.3.2 Data Input/output stream.
 - 4.3.2.1 Reader - writer: FileReader / writer, BufferedReader / writer.
 - 4.3.2.2 InputStream Reader, output stream writer.

5) User Interface with JavaFX.

5.1 What is JavaFX?

5.2 Architecture of JavaFX.

5.3 Life Cycle of a JavaFX Application.

5.4 Common JavaFX Layouts.

5.4.1 HBox, VBox, BorderPane, GridPane, FlowPane, StackPane.

5.5 Containers and Components.

5.5.1 Button, Label, Text, TextArea, CheckBox and RadioButton, List, ComboBox, menu And related classes.

5.6 JavaFX Charts

5.6.1 pie chart, Line chart, Area chart, Bar chart.

5.7 Event Handling: Adding and removing event handlers.