
from C and C++; Java and Internet, Java and World Wide Web, Web Browsers; Hardware and Software Requirements; Java Support Systems, Java Environment. **OVERVIEW OF JAVA LANGUAGE:** - Introduction; Simple Java Program; Comments in java; An application with Two Classes; Java Program Structure; Java Tokens; Java Statements; Implementing a Java Program; Java Virtual Machine; Command Line Arguments; Programming Style. **CONSTANTS, VARIABLES AND DATA TYPES:** - Introduction; Constants; Variables; Data Types; Variables, Constants, Standard Default Values. **OPERATORS AND EXPRESSIONS:** - Introduction to Operators, Expressions; Operator Precedence; Mathematical Functions. **DECISION MAKING, BRANCHING AND LOOPING:** - Decision making and Branching Statements, Looping Statements, Labeled loops, Jumping Statements

Unit-II

CLASSES, OBJECTS AND METHODS: Introduction; Defining a Class; Adding Variables; Adding Variables; Adding Methods; Creating Objects; Accessing Class Members; Constructors; Methods Overloading; Static Members; Nesting of Methods; Inheritance: Extending a Class; Overriding Methods; Final Variables and Methods; Final Classes; Finalizer Methods; Abstract Methods and Classes; Visibility Control. **ARRAYS, STRINGS AND VECTORS:** - Arrays; Jagged Arrays: Strings; String functions: Vectors; Wrapper Classes. **INTERFACES:** Introduction; Defining Interfaces; Extending Interfaces; Implementing Interfaces; Accessing Interface Variables, Implementing Multiple Inheritance using Interfaces. **PACKAGES:** Introduction; System Packages; Using System Packages; Naming Conventions; Creating Packages; Accessing a Package; Using a Package; Adding a Class to a Package; Hiding Classes.

Unit-III

MANAGING ERRORS AND EXCEPTIONS: Introduction; Types of Errors; Exceptions; Exception Handling using Try, Catch and Finally block; Throwing Our Own Exceptions; Using Exceptions for Debugging. **APPLET PROGRAMMING:** - Introduction; How Applets Differ from Applications; Applet Life Cycle; Creating an Executable Applet; Passing Parameters to Applets; Aligning the Display; More about HTML Tags; Displaying Numerical Values; Getting Input from the User. **GRAPHICS PROGRAMMING:** - Introduction; The Graphics Class; Lines and Rectangles; Circles and Ellipses; Drawing Arcs; Drawing Polygons; Line Graphs; Using Control Loops in Applets; Drawing Bar Charts.

UNIT-IV

JAVA AWT: Java AWT package Containers; Basic User Interface components; Layouts.

EVENT HANDLING: Event delegation Approach; ActionListener; AdjustmentListener, MouseListener; MouseMotionListener; WindowListener; KeyListener; ItemListener **JAVA**

I/O HANDLING: I/O File Handling (Input Stream & Output Streams, File Input Stream & FileOutputStream, Data I/P and O/P Streams, File Class, Reader and Writer Streams, Random Access File).