



Computer Consultants Corporation

## **JAVA 2 Programming**

## **A Comprehensive Introduction**

Length of course: 4 class days (24 hours)

Prerequisites: Some hands-on knowledge of C.

Learning Objectives: The student will learn to write object-oriented programs with the use of JAVA 2.

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### **Introduction**

- . What is JAVA?
- . Relationship between C++ & JAVA
- . What is object-oriented (O-O ) programming?

### **Object-Oriented Programming (OOP)**

- . Benefits of OOP
- . Concept of "Object"
- . Classes of objects
- . Inheritance, Polymorphism & Encapsulation

### **Simple Objects**

- . Represent data with objects
- . Objects "having" behaviour
- . Instantiating objects
- . Extending existing classes

### **Classes**

- . Declare and use classes
- . Private and Public class members
- . Nested classes

### **The JAVA Language**

- . Working with variables
- . Statements & expressions
- . Declaring & using arrays
- . Upcasting/Downcasting
- . Invoking methods
- . Use of conditionals
- . Loops
- . Use of Try & Catch for exceptions

### **Developing the GUI**

- . GUI widgets
- . Event-driven programming
- . The Abstract Windowing Toolkit
- . Java Foundation Classes
- . Event Handling
- . Building Applets
- . Browser independence w/ the Java Plug-in

### **Overloading in JAVA**

- . Concept and definition
- . Why use overloading?
- . Function overloading
- . Operator overloading

### **I/O in JAVA**

- . Files and streams
- . Readers & Writers
- . I/O operators & functions
- . Files & Directories

### **Design issues in JAVA**

- . Structured, top-down design
- . Software metrics for JAVA
- . Methods for information hiding
- . Guidelines for reusable JAVA programs

### **JAVA Development Tools**

- . The JDK
- . Compiler
- . Appletviewer
- . Symantec Visual Cafe