Java for COBOL Programmers Using Juno Eclipse

Course Summary

Description

This course begins with an introduction to JAVA and how JAVA terminology compares to the COBOL programming environment. Emphasis is placed on making the transition from COBOL to JAVA and using existing skills to complement the JAVA programming environment. Particular attention is paid to terminology, good programming practices, and performance. This practical course is excellent for the COBOL programmer that needs to become proficient in JAVA.

Topics

- Introduction to Java Applets
- Java Applications vs. COBOL
- Control Structures
- COBOL & JAVA Methods
- Arrays and Processing Techniques
- Object-Based Programming - Class Scope
- Object-Oriented Programming
- Strings and Characters
- Graphics
- Basic Graphical User Interface Components
- Exception Handling
- Multithreading Techniques
- Multimedia: Images, Animation and Audio
- Files and Streams
- Networking and URLs
- COBOL and JAVA Data Structures
- Stacks, Queues, Trees

Audience

This course is designed for COBOL Programmers, Analyst and Managers that need an understanding of JAVA Concepts and how to program JAVA Applications.

Prerequisites

COBOL Programming experience. Programmers with little or no COBOL experience can benefit from the class, however COBOL references many appear foreign to these students.

Duration

Five days
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Course Outline

I. Introduction to Java Applets
   A. Overview of computing environment
   B. Evolution of Operating Systems
   C. History of C++ and Java
   D. Compare and contrast COBOL to JAVA
   E. Review of COBOL preparation process
   F. The JAVA Preparation Process
   G. Java Class Libraries
   H. Structured Programming
   I. Typical Java Environment
   J. Decision making in JAVA

II. Java Applications vs. COBOL
   A. Algorithms & Pseudocode
   B. Control Structures
   C. IF / ELSE / WHILE Structures
   D. Formatting Algorithms
   E. Assignment Operators

III. Control Structures
   A. The for repetition structure
   B. The switch multiple-selection structure
   C. The do/while structure
   D. break and continue
   E. Logical Operators

IV. COBOL & JAVA Methods
   A. Program Modules in JAVA
   B. Math Class Methods
   C. Methods and Method Definitions
   D. JAVA API Packages
   E. Automatic Variables
   F. Scope Rules
   G. Recursion
   H. Recursion vs. Iteration

V. Arrays and Processing Techniques

VI. Object-Based Programming
   A. Class Scope
   B. Creating Packages
   C. Constructors
   D. Using Set and Get Method
   E. Package Access
   F. Finalizers

VII. Object-Oriented Programming
   A. Superclasses and Subclasses
   B. protected Members
   C. Composition & Inheritance
   D. Polymorphism
   E. Type Fields and switch
   F. final Methods and Classes

VIII. Strings and Characters
   A. String Constructors
   B. String Methods
   C. Concatenating & Extracting

IX. Graphics
   A. Graphics Context and Objects
   B. Drawing & Screen Manipulation

X. Basic Graphical User Interface Components
   A. Labels, Buttons, Text, Choice, Check boxes, and Radio Buttons
   B. Selection Lists
   C. Mouse & Keyboard Events
   D. Advanced GUI Components

XI. Exception Handling

XII. Multithreading Techniques

XIII. Multimedia: Images, Animation and Audio

XIV. Files and Streams

XV. Networking and URLs

XVI. COBOL and JAVA Data Structures
   A. Dynamic Memory
   B. Linked Lists

XVII. Stacks, Queues, Trees