Structured COBOL Workshop for Enterprise COBOL (5 Day)

Benefits

Students who complete this course will be able to write or maintain COBOL programs that do not require advanced capabilities of the language. The emphasis here is learning the basics of the language, along with developing program design skills using pseudocode.

Audience

Experienced programmers needing to learn COBOL as a second language. Entry level programmers learning COBOL as their first programming language.

Prerequisites

At the very least, the student entering this course should have background in using a text editor for keying in programs, and know how to run jobs and examine the output. Some introduction to data processing concepts is also recommended.

Major Topics Include

- The COBOL language

- ANSI standards

- EBCDIC / ASCII / Unicode Coding Schemes

- Data descriptions

- Sequential files

- Major COBOL verbs

- Pseudocode and program design

- Working with print files

- Intrinsic functions

- Using File Status

- The COPY statement

- Advanced currency capabilities

- Line Sequential files

Exercises

There are 17 hands-on exercises.

Structured COBOL Workshop for Enterprise COBOL - Topical Outline

Day One
Fundamentals
   Hardware and Software
   Instructions and Programs
   Compiling and Binding
   COBOL Basics
   Computer Exercise: Starting a COBOL
   Program

Describing Data
   Concepts
   Records and Files
   Fields
   Structures
   Introduction to PICTURE
   Working-Storage
   Tips in Defining Data
   Computer Exercise: Defining Working-
   Storage

Processing Data
   File Handling
   Record Building
   Loop Control
   The PROCEDURE Division
     Qualification of names
   OPEN, READ, WRITE, CLOSE
   Control Flow
   GO TO, EXIT PROGRAM, STOP RUN,
   GOBACK
   Data Manipulation
     MOVE and MOVE CORRESPONDING
   Computer Exercise: A Complete COBOL
   Program

I/O Processing Options
   Buffers
   Move Mode and Locate Mode Processing
   End of File Processing
   Data Element Naming
   Computer Exercise: Variations on a Theme

Day Two
More on Data Items
   Figurative Constants
   Data Editing
   Computer Exercise: Editing Data

PERFORM Statements
   Un-structured Programming
   Alternatives to "GO TO"
   Perform Procedure
   Perform ... Thru
   Perform Until
   Computer Exercise: Using Perform

Program Design
   Program Execution Principles
   Program Design Paradigms and
   Techniques
   Pseudocode
   Computer Exercise: Using Pseudocode

Conditional Statements
   More PERFORM statements
   Conditions and Conditional Expressions
   IF / [THEN] / ELSE
   Scope Terminators
   CONTINUE
   In-Line PERFORM
   SET ... TO TRUE
   Computer Exercise: Conditional
   Statements

Day Three
Describing Numeric Data
   USAGE Clause
   Display data
   Packed decimal data
   Binary integer data
   Computer Exercise: Creating Numeric
   Fields

Data Alignment
   Slack Bytes and Sync
   Numeric Data Transmission
   Considerations
   Computer Exercise: Ensuring Proper
   Alignment

Arithmetic Instructions
   ADD, SUBTRACT, MULTIPLY, DIVIDE
   Rounding
   Arithmetic expressions
   COMPUTE
   Planning calculation results
   ON SIZE ERROR

Computer Exercise: Using Arithmetic
Verbs
EVALUATE
Syntax
EVALUATE and conditions
EVALUATE with ANY and ALSO
EVALUATE and truth tables
Points and Tips
Computer Exercise: Using EVALUATE

Day Four
Basic string manipulation
INITIALIZE, ACCEPT / DISPLAY
Conceptual Data Items (DATE
[YYYYMMDD], DAY [YYYYDDD], DAY-
OF-WEEK, TIME)
Reference modification
Hex notation
Computer Exercise: DATE, TIME, and
DISPLAY

Intrinsic Functions
Concepts and syntax
Lists of intrinsic functions
Date- and Time-related functions
String related functions
Arithmetic, Business, and Mathematical
Functions
Computer Exercise: Using Functions

Working With Print Files
Carriage Control
Report Dates
Report Components
Line Counting
Page Break Logic
Report Break Logic
Report Design Pseudocode
Computer Exercise: Report Creation

Day Five
Control Breaks
Concepts
Break processing
Control break pseudocode
Computer Exercise: Two-level Control
Break Program (Optional)

Match Merge Logic
Update in place (REWRITE)
Match merge concepts
Match merge pseudocode
Computer Exercise: Match Merge
Processing

Miscellaneous Topics
File status
REDEFINES and RENAMES
User-defined classes
The COPY statement
Advanced currency capabilities
Line sequential files