COBOL Programming Part II

Duration: 5 Days

Audience:

Application Programmers with some previous experience in COBOL who require formal training beyond the basic language features and programming techniques.

Pre-requisites:

An understanding of computer concepts is assumed.

A working knowledge of TSO/ISPF is required. This can be gained from our z/OS TSO/ISPF Workshop.

Course Objectives

This extends the programmers knowledge beyond the subjects covered in COBOL Programming Part I. There is a wide range of topics which can be selected to suit requirements, and they are supplemented by 50 hands on.

Course Content

Module 9: Working with Dates

Obtaining date and time using the ACCEPT instruction.
Obtaining the Julian Date
Determining the Day of the Week
Other Date Functions; CURRENT-DATE, DATE-OF-INTEGER, DAY-OF-INTEGER, INTEGER-OF-DATE, INTEGER-OF-DAY, and WHEN-COMPILED.

Module 10: Manipulating Characters

Referential Modification
Character Functions; CHAR, LENGTH, LOWER-CASE, ORD, REVERSE and UPPER-CASE.
Combining text; STRING instruction
Segmenting text; UNSTRING instruction
Converting, counting, and replacing characters; INSPECT instruction

Module 11: Arrays and Tables

Initialization; both Group Level VALUE clause and the INITIALIZE instruction.
Subscripting
Using an Index, including the SET instruction
Perform a sequential search; the SEARCH instruction

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Perform a binary search
Handling variable table lengths

Module 12: Sub-programs

Using either static or dynamic linkage; CALL instruction
Sub-program considerations
Receiving parameters
Termination the sub-program; EXIT-PROGRAM and GOBACK
Delete a program from memory; CANCEL instruction
Alternative entry points; ENTRY instruction
Issuing a Return Code
Issuing User Abends (U0001-U3999)
Accessing the JCL EXEC statement PARM information

Module 13: Indexed File Processing

File types
File processing overview
Making COBOL aware of the VSAM KSDS; SELECT statement
Defining the cluster; FD statement
File status information
File instructions; Delete, Open, Read, Rewrite, Start, Write and Close.
Using Alternate Indices and their JCL implications

Module 14: Relative File Processing

File types
File processing overview
Making COBOL aware of the VSAM KSDS; SELECT statement
Defining the cluster; FD statement
File status information
File instructions; Delete, Open, Read, Rewrite, Start, Write and Close.

Module 15: Dynamic File Allocation

Static vs Dynamic allocation and impact on JCL
Using BPXWDYN for input files
Using BPXWDYN for output files
Using setenv for input files
Using setenv for output files
Using the envar variable

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Module 16: Dynamic Memory Allocation

What does my Address Space look like?
Dynamic memory Allocation Overview
Memory mapping; LINKAGE SECTION and POINTERs
ALLOCATE instruction syntax and use
FREE instruction syntax and use

Module 17: Server Interfaces

Introducing JSON
WORKING-STORAGE implications
Generating JSON wraps
Unpacking JSON wrapped data
Introducing XML
WORKING-STORAGE implications
Generating XML wraps
Unpacking XML wrapped data

Module 18: Using the SORT feature

Adding perspective, the SORT data flow
Input filtering; E15 Exit
Output filtering; E35 Exit
Making COBOL area of the file; SELECT statement
Defining the file; SD statement
Performing the sort; SORT instruction
Passing a record to the sort; RELEASE instruction
Retrieving a sorted record; RETURN instruction
How to cancel the sort