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COBOL Programming Part 1 - Foundation Level

Learn via: **Classroom / Virtual Classroom / Online**

Duration: **5 Day**

Overview This course (and its associated Part 2) have become the de facto standard introduction to the COBOL programming language for all those working in z Systems environments.

This first course teaches how to write and maintain simple COBOL programs. It is taught using a combination of classroom tuition and hands-on practical exercises, and includes realistic case studies.

As well as public presentations, this course is available for one-company, on-site presentations. When run exclusively for one organisation, the case studies can be customised to reflect the client's particular environment and work-load.

Prerequisites

An understanding of basic computing terms and techniques. For those who will be working in an IBM mainframe environment, a conceptual-level understanding of that environment and the ability to use TSO/ISPF is also expected.

What You Will Learn

- describe the structure and purpose of COBOL programs
- write, compile and test structured COBOL batch programs
- code both IDENTIFICATION and ENVIRONMENT DIVISIONS
- code data descriptions within the DATA DIVISIONS
- access sequential files from COBOL programs
- perform arithmetic operations in COBOL programs.

Outline

Introduction to COBOL Programming

Programming concepts; low and high level programming; development; compiling; COBOL history; Program design; Preparing a program.

COBOL Programming Basics

Syntax descriptions; COBOL divisions; COBOL program structure; Words; Word examples; Literal examples; Figurative constants; User-defined words; Standard COBOL program format.

IDENTIFICATION DIVISION

IDENTIFICATION DIVISION; IDENTIFICATION DIVISION sentences; Use of comments.

ENVIRONMENT DIVISION

ENVIRONMENT DIVISION; CONFIGURATION SECTION; INPUT-OUTPUT SECTION; Relationship with JCL.

DATA DIVISION

DATA DIVISION; Data record structure and levels; Data records - example; FILE SECTION; Coding rules & recommendations; WORKING-STORAGE SECTION; Describing data; PICTURE clause; Alphanumeric & alphabetic data; Numeric data; Setting initial values.

PROCEDURE DIVISION - File Handling

PROCEDURE DIVISION; I/O statements; OPEN /CLOSE statements; OPEN /CLOSE examples; READ / WRITE statements; READ / WRITE examples; Writing print headings and lines; MOVE statement; MOVE examples; Group MOVE; DISPLAY; Terminating a program; RETURN-CODE.

PROCEDURE DIVISION - Program Logic

Paragraphs; GO TO statement; Structured programming; In-line PERFORM; Paragraphs & sections; Using sections; PERFORMing a section; PERFORM example; PERFORM . . THROUGH; PERFORM UNTIL; PERFORM VARYING...UNTIL.

ACCEPT and Date Intrinsic Functions

ACCEPT; Using ACCEPT for input data; ACCEPT date data format; Intrinsic functions; CURRENT-DATE function; Other date functions - YYYYMMDD date format; Other date functions - YYYYDDD date format.

Arithmetic Operations

Arithmetic operations; Other common options; The ADD statement; The SUBTRACT statement; CORRESPONDING statement; MULTIPLY statement; DIVIDE statement; COMPUTE statement; Size errors; ON SIZE ERROR option; Arithmetic functions; Arithmetic functions examples.

Conditional Processing

Conditional processing; IF statement format; Relational conditions; Class conditions; Sign condition; Multiple conditions; Nested IF statements; 88 level identifiers; Setting 88 levels; The EVALUATE statement; EVALUATE and multiple fields; EVALUATE using TRUE & FALSE; Using ANY.

Program Compilation

The COBOL compiler; Compiler-directive statements - COPY; Compiler listing - COPY; Compiler options.

COBOL Errors & Abends

Error messages; Abend codes; Abend information; CEEDUMP.