

Using DFSORT and ICETOOL

For Experienced programmers and analysts who need a solid, in-depth exploration of DFSORT and ICETOOL capabilities.

PRE-REQ. Attendees are expected to have a working understanding of JCL.

Students who complete this course will be able to code JCL and DFSORT and ICETOOL control statements to utilize the power of these utilities. This includes using these utilities instead of tedious programming languages to create reports (with up to three levels of control breaks), XML files, and HTML files from flat files, VSAM files, members of PDS or PDSE or files in the Hierarchical File System (HFS).

Major Topics Include:

* DFSORT control statements: INCLUDE, OMIT, INREC, OUTREC, SORT, OUTFIL, OPTION, SUM, RECORD, MERGE, JOINKEYS, JOIN, REFORMAT

* ICETOOL operators: COPY, COUNT, DEFAULTS, MERGE, MODE, RANGE, RESIZE, SORT, STATS, UNIQUE, VERIFY, DISPLAY, OCCUR, SUBSET, SELECT, SPLICE

* Supported data types

* Symbolic names, user-defined and DFSORT-provided

* Using JCL symbolics in SORT and ICETOOL control statements

* Dates and times; relative dates; dates with two-digit years

* The Century Window

* The Hierarchical File System (HFS)

* DFSORT and HFS files

* Report terminology

* Markup languages

* Introduction to XML

* DFSORT and XML

* Introduction to HTML

* DFSORT and HTML

* Joining files

* Collation sequences and locales in DFSORT

* The ICEGENER utility



Unique Features

Course materials developed by Steve Comstock using classroom experience since 1975.

Instructor: Instructor has worked in the IBM Mainframe Environment, supporting DOS/VSE, MVS, OS/390, z/OS, CICS/VSAM, IMS and DB2 since 1988.

Duration: 4 Days

Format: Classroom (with 21 LAB exercises - 57 DFSORT and ICETOOL jobs)

Certification: All attendees will receive an attendance certificate.



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Jsing DFSORT and ICETOOL - Topical Outline

Day One

Introduction to DFSORT

Background

Computer Exercise: Setting up for the labs

The DFSORT Program

DFSORT Capabilities

JCL and Control Statements for DFSORT

Introduction to INCLUDE / OMIT Statements

Introduction to the INREC Statement

Introduction to the SORT Statement

Introduction to the OUTREC Statement

Using SORT to do a copy

Computer Exercise: Running Sorts

Data Types and Symbolic Names

Data Types

CH, AQ, ZD, ZDF, ZDC, PD, PDF, PDC, CSF, UFF, SFF, CSL, CST, CLO,
CTO, FI, FL, BI, AC, ASL, AST

Symbolic Names

Literals

Using Symbolic Names

Converting values

Additional symbolic name facilities

Computer Exercise: Using Names

A Deeper Look at INCLUDE, OMIT, and SORT statements

INCLUDE / OMIT: Additional COND tests

The Complete SORT Statement

Computer Exercise: Using Additional Tests and SORT Operands

The INREC and OUTREC Statements, round 2

The Roles of INREC and OUTREC

The PARSE Operand

PARSE and symbolic names

Computer Exercise: PARSE

The INREC and OUTREC Statements, round 3

The BUILD operand

BUILD Values

Computer Exercise: Using BUILD

The INREC and OUTREC Statements, round 4

The OVERLAY operand

The FINDREP operand

Computer Exercise: OVERLAY and FINDREP

Day Two

The INREC and OUTREC Statements, round 5

The IFTHEN operand

Computer Exercise: IFTHEN

Working with Dates

Dates

Dates with four digit years

Dates with two digit years

Enhanced date processing

Date Field Arithmetic

Computer Exercise: Sort and Format Dates

Working with Times

Times

OUTFIL - Multiple output files

Some Perspective

The OUTFIL statement

Computer Exercise: Using OUTFIL

OUTFIL, round 2 - Reports

Report terminology

Report related operands of OUTFIL

Headers, Trailers, Control Breaks

Computer Exercise: Generating Reports

Day Three

OUTFIL, round 3 - Markup

Markup Languages

Introduction to XML

DFSORT and XML

HTML - An Introduction

DFSORT and HTML

Computer Exercise: Generating Markup

Working with HFS Files

z/OS UNIX

Introduction to the Hierarchical File System (HFS)

HFS JCL Parameters

JCL and HFS Files: DFSORT Usage

Copying data to the HFS

Computer Exercise: Using HFS Files with DFSORT

Alternative Orderings

Collation sequence

ALTSEQ - Specifying alternative collating sequences

Locales - Ordering with an awareness of languages and formatting

conventions

Sorting ASCII files

Computer Exercise Sort an ASCII File

Additional DFSORT Control Statements

DFSORT Statements

Exits

The SUM Statement

The RECORD Statement

Merge Operations

The MERGE Statement

The OPTION Statement

JCL Statements Revisited

Computer Exercise: Using Additional DFSORT facilities

Joining files for a SORT or COPY operation

JOIN concepts

The JOINKEYS, JOIN, and REFORMAT statements

JOINKEYS Applications notes

Computer Exercise: A JOINKEYS Application

Day Four

Introduction to ICETOOL

ICETOOL Overview

ICETOOL COPY operator

ICETOOL COUNT operator

Numeric editing in ICETOOL

ICETOOL DEFAULTS operator

ICETOOL MERGE operator

ICETOOL MODE operator

ICETOOL RANGE operator

ICETOOL SORT operator

ICETOOL STATS operator

ICETOOL UNIQUE operator

ICETOOL VERIFY operator

Computer Exercise: Introduction to ICETOOL

The ICETOOL DISPLAY operator

The DISPLAY Operator

DISPLAY examples

Computer Exercise: DISPLAYing Data

The ICETOOL OCCUR operator

The OCCUR Operator

OCCUR examples

Comparing ICETOOL Operators

Computer Exercise: Analyzing Data Patterns

The ICETOOL RESIZE, DATASORT, SUBSET, and SELECT operators

The RESIZE operator

The DATASORT operator

The SELECT operator

The SELECT operator

Computer Exercise: Using SELECT

The ICETOOL SPLICE operator

The SPLICE operator

Computer Exercise: SPLICE-ing Files

Loose Ends

But Wait! There's More!

The ICEGENER utility

VSAM support

Work data sets

Sorting techniques

Using JCL Symbolic Parameters and SET Symbols in DFSORT and

ICETOOL control statements

Tape files

Performance

Miscellaneous Notes