

COBOL Changes

COBOL - A Living Language

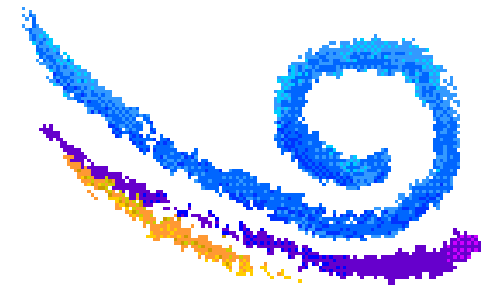
Recent Compiler Versions

- ▶ OS/VS COBOL - no longer supported
- ▶ VS COBOL II - no longer supported
- ▶ All compilers after this require Language Environment (LE):
 - COBOL/370 - no longer supported (V1R1)
 - COBOL for MVS & VM - no longer supported (V1R2)
 - COBOL for OS/390 & VM (V2R1, V2R2)
 - IBM Enterprise COBOL for z/OS & OS/390 (V3R1-V3R4)
 - V4R1 announced December, 2007
 - V4R2 available August, 2009



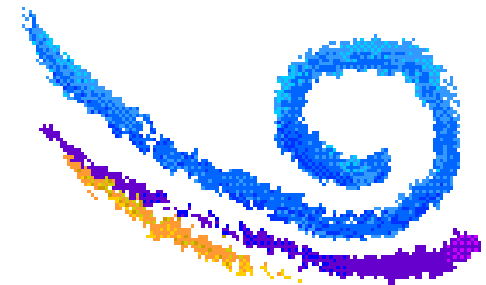
Major Recent Features - General

- ▶ Pointers and Address-of special register
- ▶ Reference modification (sub-stringing)
- ▶ Scope-terminators (END-*verb*)
- ▶ In-line PERFORM
- ▶ INITIALIZE statement
- ▶ EVALUATE statement
- ▶ Intrinsic function support
- ▶ Increased element and table size (128Mb)



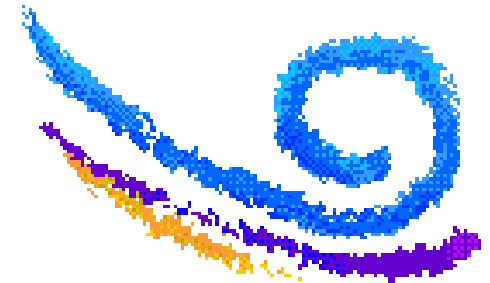
Major Recent Features - General, continued

- ▶ Local-storage section
- ▶ Recursive programs
- ▶ DLL (Dynamic Link Library) support
 - Code DLLs in COBOL, call from other languages
 - Call DLLs from COBOL program
- ▶ Dynamic file allocation
- ▶ Support for HFS (Hierarchical File System) files
- ▶ Compile and run under z/OS UNIX
- ▶ DB2 co-processor
- ▶ CICS co-translator



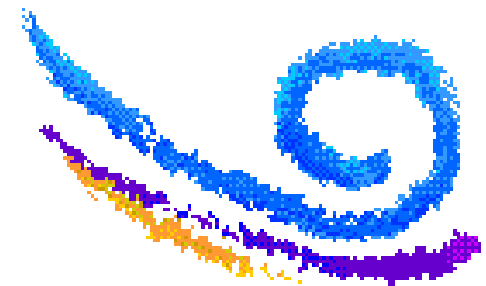
Major Recent Features - LE functions

- ▶ Dynamic allocation of storage
 - Build large tables outside of load module
- ▶ Error handling
 - No need for Assembler STAE or SPIE routines
- ▶ New dump format
 - Ability to take snapshot memory dumps
- ▶ International services
 - Date, time, currency formatting, for example



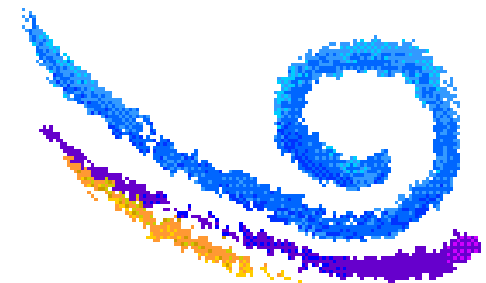
Major Recent Features - Improved interoperability with C

- ▶ Null-terminated strings
- ▶ Long names, mixed-case names
- ▶ Pass arguments in alternative ways
 - By reference - pointer to item
 - By content - pointer to copy of item
 - By value - copy of item in argument list directly
- ▶ Function-like behavior ("RETURNING" clause)



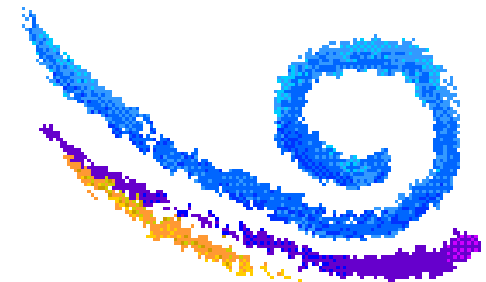
Major Recent Features - Internet / Web oriented

- ▶ Unicode support - translate between codepages
- ▶ XML support
 - XML PARSE
 - XML PARSE validating with schema (Enterprise COBOL V4R2 and later)
 - XML GENERATE
- ▶ Object Oriented COBOL
 - Uses JVM (Java Virtual Machine)
- ▶ COBOL - Java Interoperability



Training resources

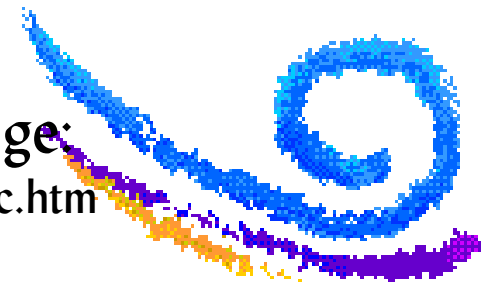
- ▶ The Trainer's Friend has a variety of courses where students can get the details - theory and hands-on practice with labs:
 - All new features are integrated into our standard series of courses, in the appropriate location
 - Structured COBOL Workshop for Enterprise COBOL (5 days)
 - Advanced Topics in COBOL (3 days)
 - To just get the new pieces, go for the update courses
 - Enterprise COBOL Update I: Essentials (2 days)
 - Enterprise COBOL Update II: Unicode and XML Support (2 days)
 - All our COBOL courses are described on this web page:
http://www.trainersfriend.com/COBOL_Courses/cobolcurr.htm



Training resources, 2

► In addition to COBOL courses, the following courses include COBOL examples and labs

- All our Language Environment (LE) courses
 - Most of our DB2 and CICS courses
 - Some of our z/OS UNIX courses
- All our LE courses are described on this web page:
http://www.trainersfriend.com/Language_Environment_courses/lecurric.htm
- All our DB2 courses are described on this web page:
http://www.trainersfriend.com/DB2_and_VSAM_courses/DB2curric.htm
- All our CICS courses are described on this web page:
http://www.trainersfriend.com/CICS_courses/CICS_curric.htm
- All our z/OS UNIX courses are described on this web page:
http://www.trainersfriend.com/UNIX_and_Web_courses/unixcurric.htm





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