

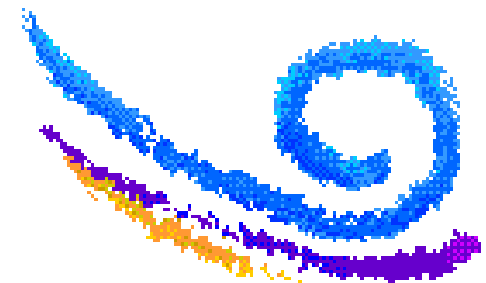
# **IBM Enterprise COBOL**

**COBOL - A Living Language**

# COBOL - COmmon Business Oriented Language

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- ▶ The single most pervasive application programming language in the world
- ▶ Easy to code and to understand
- ▶ A living language that grows with the times and supports all the most modern technologies in IT



# Recent IBM COBOL Compiler Versions

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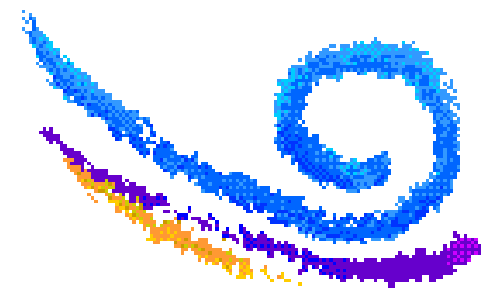
- ▶ OS/VS COBOL - no longer supported
- ▶ VS COBOL II - no longer supported
- ▶ All compilers after this require Language Environment (LE):
  - COBOL/370 - no longer supported (V1R1)
  - COBOL for MVS & VM - no longer supported (V1R2)
  - COBOL for OS/390 & VM (V2R1, V2R2)
  - IBM Enterprise COBOL for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



# Major Recent Features - General

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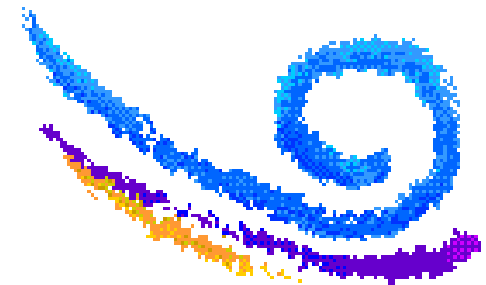
- ▶ Pointers and Address-of special register
- ▶ Reference modification (sub-stringing)
- ▶ Scope-terminators (END-*verb*)
- ▶ In-line PERFORM
- ▶ INITIALIZE statement
- ▶ EVALUATE statement
- ▶ Intrinsic function support
- ▶ Increased element and table size (128Mb)



# Major Recent Features - General, continued

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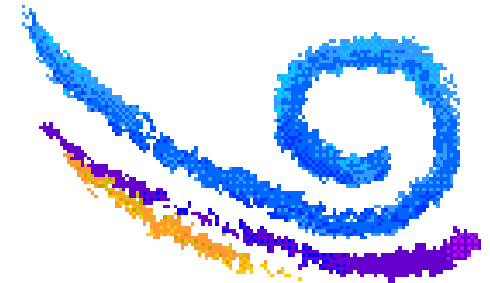
- ▶ Local-storage section
- ▶ Recursive programs
- ▶ DLL (Dynamic Link Library) support
  - Code DLLs in COBOL, call from other languages
  - Call DLLs from COBOL program
- ▶ Dynamic file allocation
- ▶ Support for HFS (Hierarchical File System) files
- ▶ Compile and run under z/OS UNIX
- ▶ DB2 co-processor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



# Major Recent Features - LE functions

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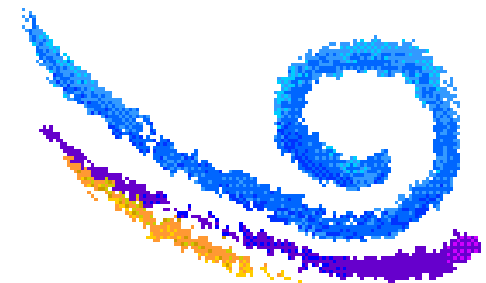
- ▶ Dynamic allocation of storage
  - Build large tables outside of load module
- ▶ Error handling
  - No need for Assembler STAE or SPIE routines
- ▶ New dump format
  - Ability to take snapshot memory dumps
- ▶ International services
  - Date, time, currency formatting, for example



# Major Recent Features - Improved interoperability with C

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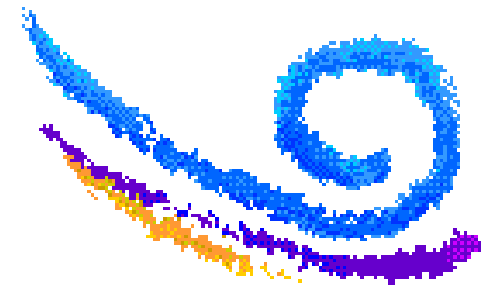
- ▶ Null-terminated strings
- ▶ Long names, mixed-case names
- ▶ Pass arguments in alternative ways
  - By reference - pointer to item
  - By content - pointer to copy of item
  - By value - copy of item in argument list directly
- ▶ Function-like behavior ("RETURNING" clause)



# Major Recent Features - Internet / Web oriented

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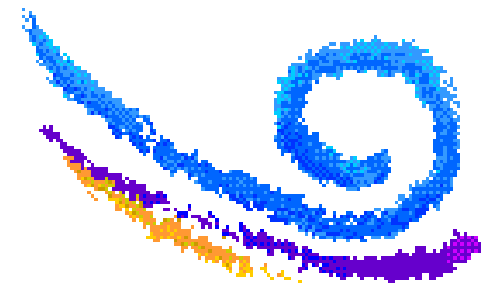
- ▶ Unicode support - translate between codepages
- ▶ XML support
  - XML PARSE
  - XML GENERATE
- ▶ Object Oriented COBOL
  - Uses JVM (Java Virtual Machine)
- ▶ COBOL - Java Interoperability



# Training resources

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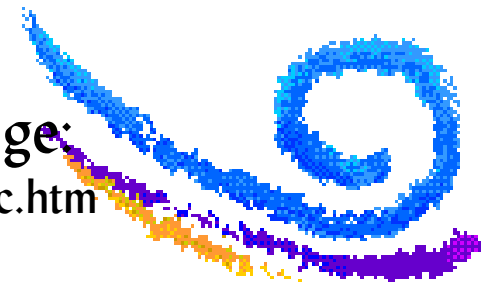
- ▶ The Trainer's Friend has a variety of courses where students can get the details - theory and hands-on practice with labs:
  - All new features are integrated into our standard series of courses, in the appropriate location
    - Structured COBOL Workshop for Enterprise COBOL (5 days)
    - Advanced 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](http://www.trainersfriend.com/COBOL_Courses/cobolcurr.htm)



# Training resources, 2

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- ▶ 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](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](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](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](http://www.trainersfriend.com/UNIX_and_Web_courses/unixcurric.htm)





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