Sept 7   PLs have a historical context

Imp   FORTRAN I- Adm Grace Murray Hopper
           - syntax? whatever accepts
           - considered impossible
           - still recognizable
           - 3 way if !!!

func Lisp - λ-calculus   (Alonzo Church)   John McCarthy. Turing 1971
           - interpreted
           - quote/eval   - first class functions
           → meta circular
           - dynamic scope   ✗
           - used for old gen AI

Imp   COBOL - Common Business Oriented Language
           - meant for secretaries to write
           ~~ASSIGN~~ ADD 1 TO X
           - verbose
           - fantastic record system & layout capabilities
                   (business! (lots of reports)
           - unfortunately also gave us #include

Imp   ALGOL 60
+func   - first language to get a standard   - committee of
           - BNF was invented to be able to do so   the best
           - call-by-value & call-by-name

           (meant for example code)
Imp. PL/I - awful mishmash
           - world hiding bottomline

           - large language, hard to compile
OO   Smalltalk
           - real O.O.   Squeak
           - all messages   / Pharo

      Pascal
           - "Teaching" language
PROLOG   → nice type system (better than most successors)

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      Sep 8
             ML family (Meta Language for LCF)
                → F#
             Haskell ↝ GHC

             Ada, Eiffel   → concurrency
              ↳ contracts

             Python, Ruby

             Forth, postscript   (PDF)
                 ↳ stack   ↳ dictionary
             SQL

             sh / csh / tcsh / ksh / bash / zsh

SNOBOL, awk   reg exp notation, pattern mat
modula, [3] 3, Oberon   language tran-time + O/S
                        ⟶ nix

APL
    ⟶ dumb syntax
    ⟶ amazing ideas on array processing.

Rust

Algol, CPL, BCPL, C ⟋ ↗ C++
                      ↘ D

Scala

Lua