

Sept 7

PLs have a historical context

Imp

Fortran - Adm Grace Murray Hopper

- syntax? whatever accepts
- considered impossible
- still recognizable
- 3 way if !!!

June Lisp - λ -calculus (Alonzo Church) John McCarthy. Turing 1971

- interpreted
- quote/eval
- meta circular
- dynamic scope X
- used for old gen AI
- First class functions

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 + June

ALGOL 60

- first language to get a standard
- BNF was invented to be able to do so
- call-by-value & call-by-name (meth for ex-ple, code)

- committee of the best

Imp. PL/I - awful mishmash

- worst kind of committee
- large language, hard to compile

OO Smalltalk

- real OO.
- all messages

Squeak
Pharo

Pascal

- "teaching" language

PROLOG - nice type system (better than most successors)

Sept 8

ML Family (Meta Language for LCF)

→ F#

Haskell → GHC

Ada, Eiffel

↳ contracts

→ concurrency

Python, Ruby

Forth, postscript (PDF)

SQL

stack → dictionary

sh/csh/ECsh/ksh/bash/zsh

SNOL, awk reg exp notation, pattern match
modula, $\sqrt{3}$, Oberon language + on-time + O/S
→ mix

APL

→ dumb syntax
→ amazing ideas on array processing.

Rust

Algol, CPL, BCPL, C → C++
→ D

Scala

Lua