The Genealogy of Programming Languages (30K Ft Edition)

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```
1600
                                                        Symbolic Algebra
                                                                            Set
Theory
1879
                                                        Symbolic Logic
                                 Godel
1936 Turing Machine
                                                   Untyped Lambda Calculus
. . .
                                                                        Typed
Lambda Calculus
1945 von Neumann IAS Computer
       Assembly
1950
        FORTRAN
1955
           +-> Algol
                                                            LISP
1960
APL
       SNOBOL
                +-> CPL
```

```
+---- Simula
1965
     LISP 1.5 ----> ISWIM
      BCPL
               +---- Logo <---+
      +----> Smalltalk
1970 Pascal <--+ |
     C
                          ML <-+--
  +-> CLU |
1975
  | V V |
               | Scheme <--+
               SASL
  +---> Modula | +====+==+
  KRC
  +-> Ada v | v v v l |
   Matlab
  1980
       +--->+---->+ |
  V V B | | | | |
    Miranda ---+
     C++ | ObjC | |
  SML <--+---
->+
1985
                | | LISP | |
ABC |
                  V
                          +-> Caml
| Haskell
     1990
```

```
Python <-+ | +---> Oak
             +--> Ruby
              Java | JavaScript <----+ R
1995
      PHP
                                      ocaml
1
Agda <-+
2000
2005
        v | GJava
       Rust | |
                       | Julia |
               | Swift
                       | | Racket
2010
               | v Type <---+-->|-----> Elm <----+<-
               | Script | |
```

Crowded out: COBOL, Basic, PL/1, Bliss, Logo, SETL, Prolog, Delphi, Eiffel, Dylan, Self, Erlang, Lua, Scala, Flash, Clojure, Groovy, Scratch, Kotlin,