

# HISTORY

London (2ed)  
2 History (1)

→ prehistoric. (ca 800)

~~Mohammed~~  
Mohammed Al-Khorezmi = algorithm.  
→ Kita aljabr wal muqabala"  
↖ algebra.

→ trans: Algorithmi de numero Indorum.  
ca 1200 — Leonardo of Pisa  
(Filius Bonaccio).

Anti Kythora  
mechanism

prehistoric (1800s)

Charles Babbage - difference engine

Ada Byron, Countess of Lovelace - 1<sup>st</sup> pgmr.

1950s

1954-57 Fortran, John Backus, IBM  
- scientific #crunching  
- efficiency to the max

1959 - COBOL - US DoD  
Capt → Adm Grace Hopper  
⇒ Banks, etc.  
lang, for VPs,  
ADD ONE TO COBOL.

Basic - Dartmouth College.  
63 timesharing

Algol 60

BNF London  
Backus  
Naur.

2 History (2)

PL/I

Lisp

- algorithmic language 1960.

- deriv: Algol 68, Pascal, Ada

- MIT, 1950s, John McCarthy

- successor: Scheme

- Sexpression: no parser

pgm  $\rightarrow$  pgm sexp | ;

sexp  $\rightarrow$  list | ATOM ;

list  $\rightarrow$  ' (' sexps ')' ;

sexps  $\rightarrow$  sexps sexp | ;

Calculus  
Turing Mc

- gcol

APL - math language.

1960s - plethora

IBM PL/I

Algol 68 - van Wijngaarden grammar

- orthogonal

- proved Ph.D to read LRM

SNOBOL / SPITBOL - string processing

Simula 67 - Nygaard  $\rightarrow$  Norway

- ancestor of all OO

1970s - Algol W, Pascal, C

1980s - Ada, Small talk, C++

$\uparrow$   
DOD. language.

{straw, wooden, tin, iron, steel} man.

- front

BCPL  
|  
B  
|  
C

1980s - Scheme & ML. → OCAML Load on 2 History (3).

↓ lisp

~~prog → seq~~  
~~expr → (seq)~~  
~~expr → atom~~

~~prog → seq~~ ~~expr~~

prog → seq

expr → (seq)

expr → atom

seq → seq expr

seq →

meta language.

- has syntax
- type inference.

SML/NJ

1990s - Java (Oak)  
- embedded devices.

hybrid OO - primitive vs classes.

bytecodes brief JIT.

THREE SYS : 1. done quickly, lean,  
barely useable

2. designed by "Expert" committee  
flat slow complex

look like C++. 3. rebuilt by people burned  
by 2<sup>nd</sup> sys.  
Diff & not compat.

Haskell, hugs - pure functional.

~~Moda~~ Monad / lazy

Thunk