

1 Historical Perspective

Wednesday, August 27, 2025 11:54 AM

• Why Programming Languages ?

"In the Beginning, Machines where Big, Problems small"

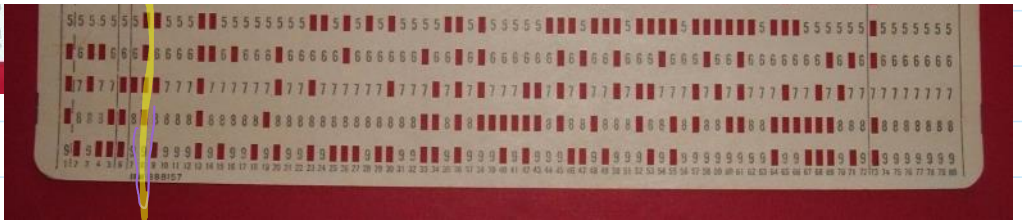


Binary Code.

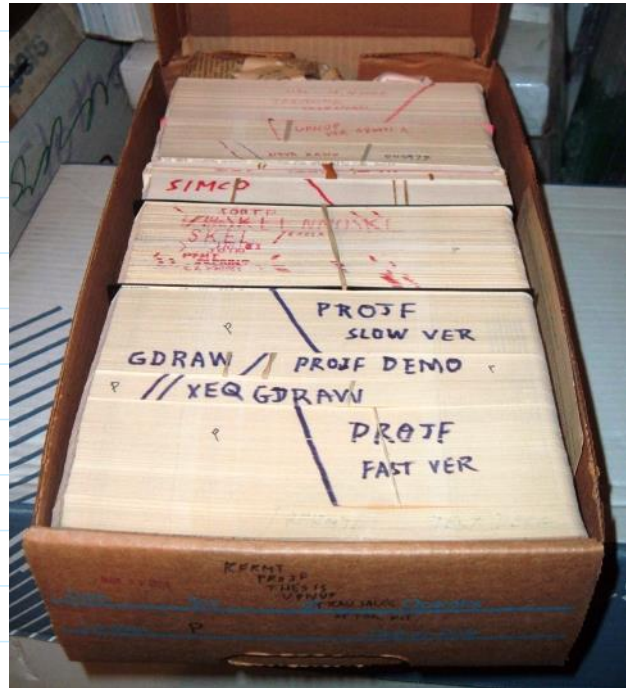
```
01010100 01101000 01101001 01110011
00100000 01101001 01110011 00100000
01110100 01101000 01100101 00100000
01110100 01110101 01110100 01101111
01110010 01101001 01100001 01101100
00100000 01110100 01101111 00100000
01101100 01100101 01100001 01110010
01101110 00100000 01100010 01101001
01101110 01100001 01110010 01111001
00101110 00100000 01001001 00100000
01101000 01101111 01110000 01100101
00100000 01111001 01101111 01110101
00100000 01100101 01101110 01101010
01101111 01111001 00100000 01101001
01110100 00100001
```

→ Add x y
Mult x 2
→ sub x 123
→ Load x address
→ Store x address





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• Programming Languages

• '53 John Backus IBM

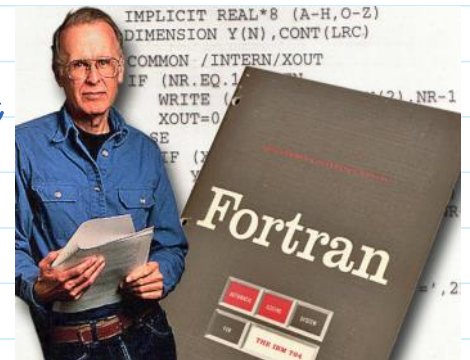
"Make programmers more productive"

"Eliminate Bugs"

"It will take 6 Months"

'59 ForTran

Formula Translator.



'60 Algol-60

First language described using formulas: Backus-Naur Form

ii Recursion !!

- COBOL

- PL/1

- Algol-68

- Templates

- list comprehension

- Fancy Loops over lists

- Exception handling

- LISP

by John McCarthy

• 70's

- BCPL

- B

- C by Kernighan & Ritchie

UNIX

- Pascal by N. Wirth.

First personal computers

- BASIC

- LOGO "for kids"



Prolog.

Colmerauer & Russell

- Simula '79

► Object Oriented Programming

• 80's

Alan Kay - SmallTalk

Pascal → Object Pascal → Delphi
Modula

C → Objective C → MacOS.

- C with Objects

- C++ by Bjarne Stroustrup

- Eiffel

- Perl by Larry Wall

• 90's

- PC's are everywhere: [DOS / Windows]

- Visual Basic

DeskView
OS/2 Warp

• PC's are everywhere: [DOS / Windows]

DeskView
OS/2 Warp

- Visual Basic

• '96 the internet

- "HTML"

- Java - virtual Machine -  Android

- JavaScript Brendan Eich

- PHP

• 2000's

- Python

"The Y2K bug"

Cobol & Fortran

still alive!!!

99

1999 ? 2000

New Trend. improving older languages.

- A better Objective-C.

- Swift

- A better Java.

- Scala

- Kotlin

- J++

- C# by Anders Hejlsberg.

- A better C++

- D

- Go

- Rust

- Zig

- A better JavaScript.

- Dart

- TypeScript

- WebAssembly.

• 2020's the Future??

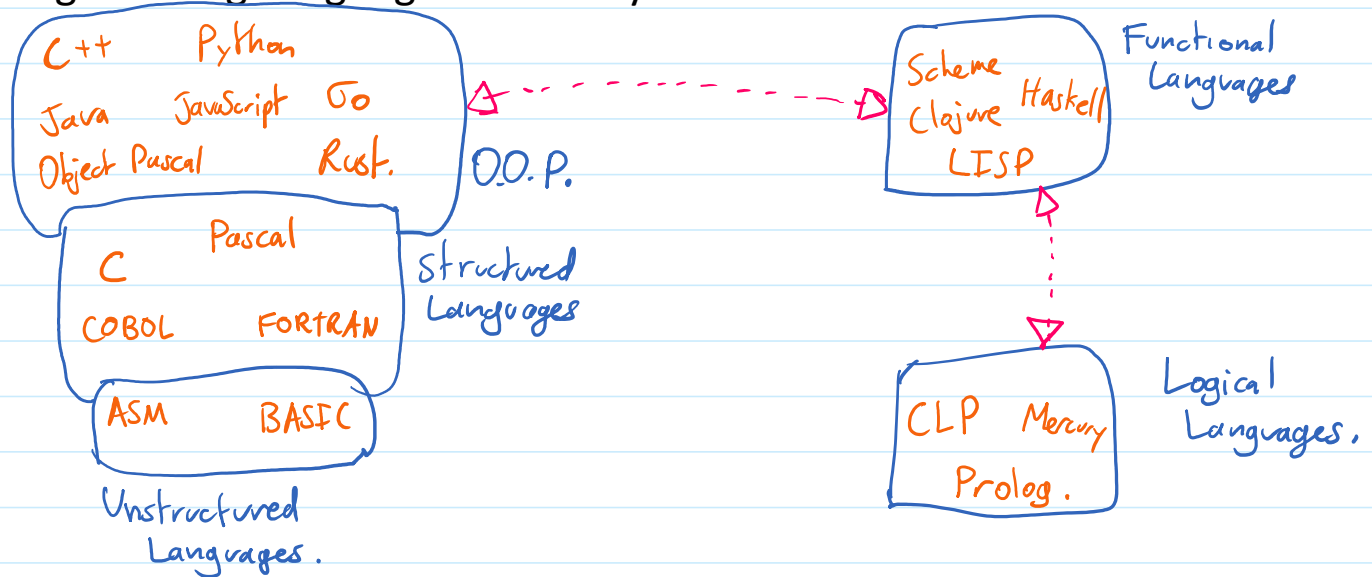
- Java

- ...

- Java
- JavaScript.
- Python.

<https://www.tiobe.com/tiobe-index/>

• Programming Language Taxonomy



C++ '98 '03 '11 '17 '20 '23 '26 '29 '32

— 0 — EOF